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GLEANINGS IN BEE CULTURE

VOL. 5. 1877.

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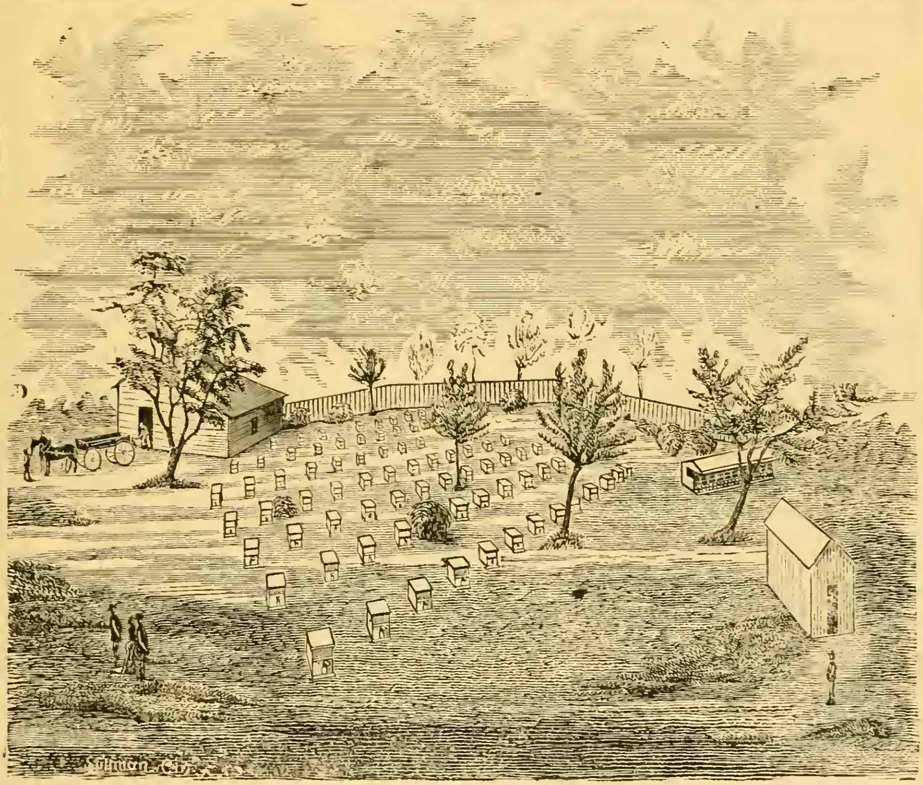
GLEANINGS IN BEE CULTURE

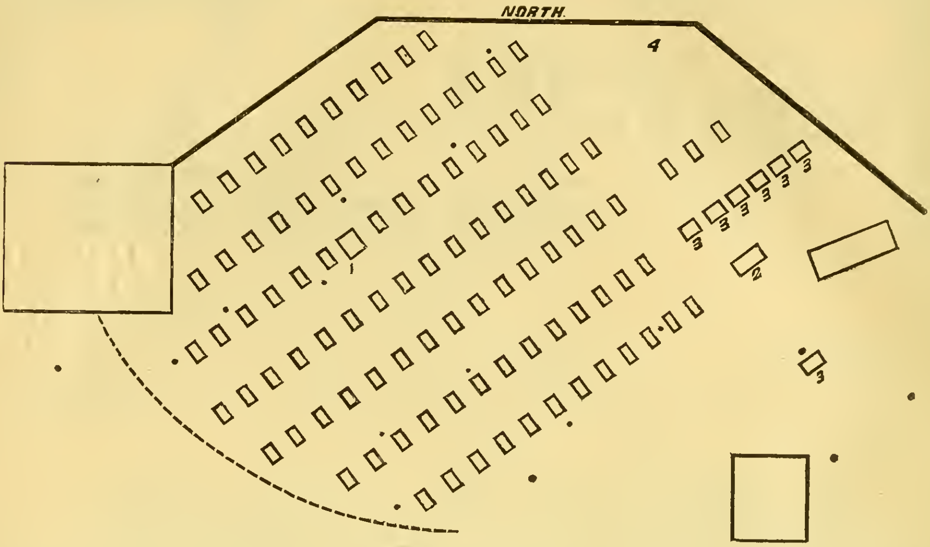
Vol. V January, 1877. No. 1

CHUSETTS ICULTURAL COLLEGE



Friend Hill's Apiary.

By referring to page 30: , December No., our friends will see how Mr. Hill, in 1875, was obliged to feed his bees about 2,300 lbs. of sugar and honey, without getting any surplus at all, and how he, in 1876, got an average of 46 lbs. of beautiful comb honey, and 75 lbs. extracted, from his whole 84 colonies, besides increasing them to 102. His mode of wintering will be found in this, and the December No. On page 286, November No., Mr. Muth speaks of the quality of the honey: it seems the comb was in the popular section box. Friend H. sends us an explanatory letter which will be found over the leaf.



The house on the left was formerly a dwelling, but is now used for a honey house and storing combs. The one in front was built for wintering nuclei with surplus queens, but as I can not successfully winter in-doors I gave it up. The other house was built last year, for the same purpose, having a glass front to allow the sun to shine in, but was not entirely successful. The nuclei are in a long box with division boards, so that each helps to maintain the heat. I have now 17 in it, but not in as good condition as I like.

Find enclosed a rough ground plan; it is on a scale of 1-16 inch to the foot. The line running from the corner of the honey house is a high, tight, board fence; the curved line is a wind-breaker made of corn fodder for winter, and taken away in summer. The avenue next the fence is 4 feet 8 inches; the other 6 avenues are all 6 feet 8 inches. The hives are 4 feet apart from center to center, and 2 feet 6 inches between. The dots show where trees stand; there are other small ones not marked. No. 1 is a larger hive containing 2 swarms with 8 frames each; No. 2 is the long idea hive, which I call the great A, and contains 3 swarms with 7 frames each; No's. 3 are all double nuclei that I am trying to winter, with 5 frames each—frames 5 by 7¼ inside measure; No. 4 is a floor for feeding meal.

The representation of the hives in the cut is good. I have thin boards 5 inches wide, cut with the proper bevel to fit, from the bottom of portico to reach close to holes in the front of the hives, to help the bees at all times to reach the entrance easily, as it is hard for them to crawl up the side of the hive, especially when the weather is cold and they are a little chilled. J. S. HILL, Mt. Healthy, O., Dec. 16, 1876.

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THIS 29th day of December, 1876, we are rejoicing to find that we have 912 subscribers to start the New Year with. May the kind Father above grant us health, strength, wisdom and discretion, in our efforts to return you a full equivalent for your money.

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Imported and home bred queens; full colonies and nucleus colonies; bee keeper's supplies of all kinds, Queens bred early in the season. Send for catalogue.

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Next spring, at greatly reduced prices.
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Having had many calls for wares used in our apiary, we have concluded to sell for samples, as below; that our bee-keeping friends, if they desire, may have a pattern to work by in making them.

Doolittle's improved Gallup hive with 30 boxes and cases and wintering arrangement all complete	$6 25
Standard Gallup hive with 24 boxes and cases all complete	25
The above are well painted, with tin roof.	
Sample set of cases with 21 boxes that will fit any frame hive at top 14x20 (outside measure) or larger	2 00
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Is the best scientific and practical Journal of APICULTURE in the world. The most successful and experienced Apiarians in Europe, as well as America, contribute to its pages. In fact, it is the *oldest* and *largest* BEE PAPER in the English language. $2. Per Annum. Send a Stamp for a Sample Copy. Address THOMAS G. NEWMAN.
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Cut to any size desired.

PACKED IN NEAT WOODEN BOXES—PAPER BETWEEN EVERY TWO SHEETS. AT $1.00 PER POUND FOR THE WHITE, OR 75 CENTS PER POUND FOR THE YELLOW.

IF WANTED BY MAIL, ADD 25 CENTS PER POUND FOR PACKING BOXES AND POSTAGE.

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Wax will be worked up to order, and cut into sheets of any size desired, for 10 cents per pound.

We will pay 30 cents per pound cash for bright yellow wax, or sell it for 32.

One pound of wax makes from 4 to 8 square feet of surface. The thinnest will be used by the bees, but is not made into comb as quickly as the heavier, which has a greater depth of cell.

Sheets just right for L. frames, both white and yellow, kept constantly in stock ready for shipment; also square sheets for section boxes. About 6 of the former or 30 of the latter (enough for 1 Universal case) weigh 1 pound.

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A. I. ROOT, Medina, Ohio.

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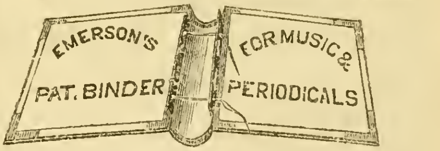

You cannot look over the back No's of GLEANINGS or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said—"Dear me what a bother—I *must* have last month's Journal and it's no where to be found." Put each No. in the Emerson Binder as soon as it comes and you can sit down happy, any time you wish to find any thing you may have previously seen even though it were months ago.

Binders for GLEANINGS (will hold them for four years) gilt lettered, free by mail for 50, 60, and 75c, according to quality. For table of prices of Binders for any Periodical, see Oct. No., Vol. 2. Send in your orders. A. I. ROOT, Medina, O.

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BOOKS for BEE-KEEPERS and OTHERS.

[Any of these books will be forwarded by mail, *post-paid*, on receipt of price.]

In buying books, as every thing else, we are liable to disappointment if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them *for sale* it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage, shall not be disappointed, and therefore, I am going to try to prevent it by mentioning all the faults so far as I can, of the books in this list. To illustrate; I sent for Miniature Fruit Garden some years ago; I found it a foreign book that advised transplanting bearing trees every year or oftener. I sent for a book telling how to hatch chickens artificially; this book was advertised by Orange Judd Co. as being something new and very desirable; the little it contained was nearly all devoted to puffing a patented machine, yet the advertisememt would lead one to suppose it told how to make a hatching machine as plainly as the Candy Book tells how to make candy. Again, How I Made $350. A Year With My Bees, proved to be an English work, written long before the era of movable combs, and as no kind of a date can be found about the book it looks as if the publishers had purposely tried to make it appear that it was a new American work, and up with the times. Now the book is well worth the money, but the purchaser should know just what he is getting. In the following list, books that I approve I have marked with a *, those I *especially* approve * *; those that are not up to the times †; books that contain but little matter for the price, large type and much space between the lines ‡; foreign §.

These hand books that tell us how to do things, not only educate us, but they are often the very best investment that one ever makes, and the small amount they cost, comes back many times every year if they are faithfully read. When we get interested, is just the time to read up a subject. We hear of receipts for doing certain things, being sold for many times the cost of these books that contain the same thing and ever so much more, and often with illustrations fully explaining the work. I never spent happier hours than in reading my poultry books when I was a boy; and while busy with my coops and yards I not only avoided idleness and bad company but I educated my hands in the use of tools, as well as my mind in the science of profit and loss. Parents if your children have any taste for these useful pretty handbooks, is it not a duty of yours to encourage it by judicious purchases?

BOOKS ESPECIALLY FOR BEE-KEEPERS.

Langstroth on the Hive and Honey Bee**†	$2 00
Quinby's Mysteries of Bee-keeping**†	1 50
Bee-keeper's Text Book*†....muslin	75
" " " " *†....paper	40
A Manual of Bee-keeping, by John Hunter*§	25
Manual of the Apiary, by Prof. A. J. Cook**	30

This, although small, is the only book we have in America that is entirely up to the times; the best for beginners.

How I Made $350 a Year with my Bees*†§	25
How to make Candy**	50
Art of Saw-filing*‡	75
Lumberman's Hand Book***	10
Fuller's Grape Culturist**	1 50

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An Egg Farm, Stoddard**	50
Window Gardening	1 50
Purdy's Small Fruit Instructor*	25
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Play and Profit in my Garden*	1 50
"Our Digestion," by Dio Lewis**	2 00
Onion Culture*	20
Practical Floriculture*	1 50
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Strawberry Culturist, Fuller*	20
Small Fruit Culturist, Fuller*	1 50
Forest Tree Culturist, Fuller*	1 50
How to Build Hot-Houses, Leuchar§	1 50
Draining for Profit and Health, Warring	1 50
What I know of Farming, Horace Greely	1 50
Injurious Insects, Prof. A. J. Cook***	10

BOOKS THAT I HAVE NEVER EXAMINED, BUT THAT ARE IN GOOD REPUTE.

Broom Corn and Brooms..........paper 50....cloth	75
Cider Maker's Manual, Buist	1 50
American Pomology, Warder	3 00
Canary Birds..........paper 50....cloth	75
Farmer's Barn Book	1 50
Pear Culture, Fields	1 25
American Bird Fancier	30
American Weeds and Useful Plants	1 75
Bement's Rabbit Fancier	30
Bommer's Method of Making Manures	25
Burn's Architectural Drawing Book	1 00
Burr's Vegetables of America	3 00
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Darwin's Variations of Animals and Plants, 2 vols	5 00
Gun, Rod, and Saddle	1 00
Harris on the Pig	1 50
How to Get a Farm and Where to Find One	1 25
How to Use the Pistol	50
Jennings' Horse Training Made Easy	1 25
Johnson's How Crops Feed	2 00
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Plummer's Carpenters' and Builder's Guide	1 00
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American Fruit Culturist, Thomas	3 75
Cranberry Culture, White	1 25
A Simple Flower Garden, Barnard	38
Farming by Inches, Barnard	38
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Fish Culture, Garlick	1 50
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American Angler, Norris	5 50
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Shooting on the Wing	75
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Fruits and Fruit Trees of America, Downing	5 00
Complete Works on Chemistry, Leibig	2 00
Gardening for Ladies, Loudon	2 00
Riley on the Mule	1 50
Flax Culture (seven prize essays by practical growers)	30
Peach Culture, Fulton's	1 50
How To Paint, Gardner	1 00
Gregory On Cabbages....paper	30
Gregory On Squashes....paper	30
Gregory On Onions....paper	30
Insects Injurious To Vegetation....Plain, $4 00.. With colored plates, $6 50	
Gardening For Pleasure, Henderson	1 50
Hop Culture	30
Jenny June's Cook Book	1 50
Cotton Culture, Lyman	1 50
Manual Of Flax Culture and Manufacture	25
Parsons On The Rose	1 50
Potatoe Culture, (prize essay)....paper	25
Money In The Garden, Quinn	1 50
Pear Culture For Profit, Quinn	1 00
Manual On The Culture Of Small Fruits, E. P. Roe	50
Farm Implements And Machinery, Thomas	1 50
Earth Closets, How To Make Them, Warring	1 00
Gardening For The South	2 00
Cranberry Culture	1 25
Practical Poultry Keeper, Wright	2 00
Peat And Its Uses	1 25
Hedges And Evergreens, Warder	1 50
Book On Birds, Holden	25
Sorghum And Its Products	1 50
Taxidermist's Manual	1 00
Practical Trout Culture	1 50
Farming For Boys	1 50
Silk Grower's Guide	1 25
Painter, Guilder and Varnisher	1 50
Mushroom Culture	3 00
The Farmer's Receipt Book	50
The Model Potatoe	50
Apple Culturist, Todd	1 50
Willow Or Ozier Culture	25
Youman's Household Science	1 75

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

A. I. ROOT,
Publisher and Proprietor,
Medina, O.

Published Monthly.
Established in 1873.

TERMS: $1.00 Per Annum in Advance; 3 *Copies for* **$2.50; 5** *for* **$3.75; 10** *or more, 60c. each. Single Number* **10c.**

Vol. V. JANUARY 1, 1877. No. 1

CHAFF AS A REMEDY FOR SPRING DWINDLING.

I HOPE enough has been said in relation to wintering bees packed in chaff to induce every reader of GLEANINGS who has not a good wintering house to give it a trial with a few hives this winter, and report the result next spring. And now a few words to those who have good wintering houses or cellars, where they *always* winter bees successfully. Next spring when you take your bees from their winter quarters, select two or three good fair average size colonies, with honey and pollen sufficient to last them till they can obtain a supply from natural sources, set them in boxes enough larger than the hive to afford a space of about three inches between the hive and box on all sides and over the top of the hive, and after arranging a passage for the bees so that they can go out and in as they choose when the box is filled, fill the space and pack it snugly with dry chaff and leave them there unmolested, undisturbed, until after fruit blossoms, or until freezing nights are past. Now select an equal number of colonies as nearly equal as possible in size, and set them on their summer stands without protection, and after doing all that you can from the time they are set out till the latter part of May or first of June to build them up, make strong stocks of them by stimulative feeding, spreading the brood combs apart and putting empty combs between them, contracting the hive with a division board to suit the size of the swarm, notice the difference between them and those that you packed in chaff. If it does not convince you that "springing" bees packed in chaff will pay, while spring *fussing* with bees will not pay, your experience will be different from what mine has been.

I am not *very* particular about the kind of chaff used, but after having tried wheat, oat, buckwheat and clover, I prefer the first named, as it does not get wet or damp as easily either from rains or by dampness from the cluster of bees. J. H. TOWNLEY.

Jackson, Michigan.

SECTIONS, FOUNDATION, COMB HONEY, ETC.

NOW this is my club and I propose to add to it during the year, so "set 'er down." I have put away 33 stands of bees in the cellar in prime order; it is less trouble than to dig a pit, and if done right I think it is as good. "Hans" has his in a root house; it would be a good place if he did not have to go in every day for roots.

My report is, from 22 stocks in spring 1,250 lbs. extracted honey, 11 new stocks in hand and two out in the woods somewhere. Only 3 days good clover honey weather, and 14 days good fall honey. I never doubt big honey stories if I am assured they have a long spell of continuous honey flow.

Now about your sections and *our* fdn. I suppose you thought you had got ahead of me by sending me *gratis* a pound of fdn. to replace that which kinked so badly. We want you to understand that the fdn. was *our* experiment as well as yours, and nothing remains to be made good, so here's your 75 cents for it. All I complained of was that you sent by express instead of freight as we ordered.

We do not like the hoop arrangement for surplus boxes as they are too cold nights. We finally succeeded in getting 14 sections out of 30 filled.

We took premiums at two fairs, and were beaten at one. Our honey was dark and although all admitted the package to be superior, the premium was given in one instance to some superb honey in a glass box, as it should have been. At the other two fairs we had dark honey to compete with, and beat other packages, however fancy, all hollow.

We have decided for ourselves, and "*our bees,*" mind you, that natural comb is better than fdn; that the sections should be of a size to fit inside of a Langstroth frame—6 in a frame; that the tin separators have more objectionable features than useful ones, chief one being the distances between combs, two spaces, one each side of the tin, and difficulty of handling sections when waxed in; that comb built on fdn. has a hard core, and does not melt in the mouth as does natural comb, when nice.

The problem for you to solve is, to make fdn. so delicate that it cannot be told from nice, new, natural comb; and for us to solve, is how to get them filled of a uniform thickness, with not more than ¼ inch between surfaces after finished.

We cannot get our bees to produce natural comb to fill sections as Doolittle does, except when honey is coming in rapidly; then it is too expensive. So we intend to use fdn. if we can. To make it a success the sections must be kept warm night as well as day.

Novice, your chaff hobby is the most sensible one you ride. We hope you will make it a success. We hope you will add a naught to 1,842 this year, instead of tumbling, as you fear.

Our honey went off like hot cakes at 15 cents for clover and 12½ for fall honey. R. L. JOINER.

Wyoming, Iowa Co., Wisconsin.

SILVER HULL BUCKWHEAT.

LAST year I sowed two bushels of buckwheat on two acres and got 50 bushels. Last spring I sent money to Gregory for four lbs., thinking his kind might be nicer than mine, but it was a little darker than my kind. I sowed four lbs. of each kind July 10th. It was so dry for about four weeks that it did not sprout at all and a frost caught it before it was all ripe; from the four lbs. from Gregory, I got 2½ bushels and from *my* 4 lbs. I got 3½ bushels.

[From Gregory's seed catalogue.]

SILVER-HULL BUCKWHEAT. A new variety offered as an improvement on the common Buckwheat. The grain is of a grey color, while the corners are much less prominent and the husk is thinner, thus saving fifteen per cent. of waste in the process of manufacturing. Messrs. Platt & Barnes, proprietors of Buckwheat Mills, certify, "We regard the Silver-Hulled Buckwheat as the best we have ever seen, and should judge it will make from three to five lbs. more of flour and of better quality per measured bushel than the ordinary buckwheat."

Friend K, sends the following clipped from a newspaper,

BUCKWHEAT.—The buckwheat crop throughout this county was last week housed, and we learn that in the upper townships it was a very good one. Though somewhat scant in straw in some places, it was nevertheless large in yield—never better. There are two kinds of buckwheat that are now being cultivated—the one known as the common brown shell variety, old as the nation itself, and the other an improved kind called the "silver hull," because of the color of its exterior shell when fully ripe. This latter is an extraordinarily large yielder, good sized and hefty in the grain, and from eight to ten days earlier than the old kind. Our valued friend C. H. Foster, of Lynn, we learn has this year realized 55 bushels of the "Silver Hull" variety from a very small tract of land planted with it.

He adds:

Mr. Foster got a half bushel from me last spring and got from it 55 bushels. D. N. KERN.

Shimersville, Lehigh Co., Pa. Oct. 23d. 1876.

WILD BERGAMOT, SORGHUM MILLS, LOTS OF HONEY, ETC.

WELL friend Novice, I was taken sick with fever on 5th of September and have been unable to open a hive since. 'Tis only during the past week that I have really begun to feel like being able to do something. I got friends Cramer and Kellogg of Oneida, Ill. to go to the river (in September) and take off my box honey and extract. They extracted 790 lbs. Taking the season through it was a good one for honey, though a little too wet during white clover bloom for a heavy yield. I had 42 stocks to begin with in the spring; 20 of them I calculated would be able to work in boxes. the balance I thought would be able to get themselves in shape by fall.

Last fall a Sorghum factory thinned them out rapidly, though I did not know the cause till in the winter, when a man said to me, that he felt "mighty sorry" for me as they killed my bees by the thousand as they flew into the hot steam. This fall not a dozen bees could be seen there. At the river I had 62 hives on shares, half in good condition, the balance medium. They increased to 150, giving 88 increase saved, besides 20 probably, that left for Iowa or the Islands. They gave box honey 3500, of extracted 790. This honey was all gathered from Wild Bergamot which blooms from July 20th to September. I got the half of the above at my home apiary. I had 43 new swarms and about 2500 lbs. of box honey (I had no time to extract) so you can see my summer's work paid me very well. *Over* 4000 lbs. of honey, average price 20c. $800; 88 new swarms $10. each, $880. Total $1680.

Mr. N. Jarvis who has an apiary a few hundred yards from ours at the river, had 38 stocks in good condition last spring; increased to 108 and took about 3000. lbs. of box honey, which he sold at the low price of 16c. per lb. In '72 he had but 5 stocks. In the meantime he has sold about $200. in bees besides lots of honey, and now has over 100 stocks for next spring's work. Who says bees won't pay in a good locality? He has his bees stowed away in a cave in the sand. I suppose Hollingsworth's and mine are being put in to-day—200 in one cave dug out of the sand.

During the summer I had 236 stocks to handle. I did all the work, except in my absence other parties hived the swarms. The apiaries are over 20 miles apart. You can rest assured that I had scarcely a moment's rest all summer. C. O. Perrine was here a few days ago on his way South, he intends sowing 100 lbs. of sweet clover as an experiment in the South. I believe the sections are going to take better than boxes. I notice the demand in Chicago is for "honey in small packages of 1 and 2 lbs. No demand for large packages." T. G. McGAW.

Monmouth. Ills. Nov. 29th. 1876.

Where sorghum mills are visited by the bees as in the case mentioned, we would advise the bee-keeper's going to the expense of making a cheap cloth covering, as we do for our cider mill. The bees very soon get over the habit, and give up trying to get to the dangerous sweets. This wild bergamot is certainly an item worthy of consideration, and if friend M. will send us a sample of it, we will tell you all just what it is like, with all the pleasure in the world.

SURPLUS HONEY IN FULL SIZED FRAMES.

You say friend M. you had no time to extract; suppose you had lifted out full combs, and put empty ones in their places, providing each hive with an upper story, how much more labor would it have required than boxes? Not as much labor or expense, as the cheapest kind of boxes, and then when the season was over you could have extracted at your leisure, or could have sold it in the comb, whichever would have paid best. We have tried this latter plan, and are inclined to think there is no easier way in the world of getting honey out of the hives, and away from the bees. The great trouble is that these 6 or 8 lb, frames are too large to retail to good advantage. Now why can we not put sections inside them, as does friend Rice, and go on our way rejoicing? Who will tell?

VARIOUS SUBJECTS.

DEAR NOVICE:—I have been conning over this year's No's of GLEANINGS and was struck by the amount of space given to the wintering and springing of bees; this is my apology for this communication.

HOW TO WINTER.

In the outset, let me say that I have never lost a stock in wintering or springing. Whether it is owing to the management, care, or way of preparing for winter, I will leave it for your readers to judge.

I prepare my hives for wintering early—don't wait until cold weather comes. Most of them are made to use side boxes as well as top, and of course when the boxes are removed and contracting boards in place, it gives a chance to stuff the sides and top with fine cut straw or dry leaves, six inches thick. This year I have thrown away contracting boards altogether for wintering purposes and have made mats of unbroken rye straw. I place mats at the sides, fitting and pressing them in close and tight, then by making the top mat a little larger than to cover the frames, bending the ends of top mat down over the tops of side mats, I have almost a straw hive—have filled in with straw as before. I place them in this condition in the cellar which is large, dry and dark, about the 20th of Nov., after they have had a good fly—set them two feet from the ground—removing covers and opening entrances about the same as in summer. I take them out about the 10th of March if the weather is suitable, and never have returned them again to the cellar. Now mark. I let this packing remain *until time to put on boxes*, and it seems to me this is one of the main uses of packing. The result with me has been hives just boiling over with bright, strong, healthy bees, ready for the harvest when it should come.

WHEN TO PUT ON BOXES.

I see the above question is often asked. This "no fellow can find out" as an invariable rule. It is a matter of judgment, subject to certain conditions. I see the question answered, "when the hive is full of honey." According to my ideas, that is a little too late, friend Novice. *With the hive full of bees* and apple blossoms out, put on top boxes and perhaps boxes on one side. This season for instance, I put boxes on with the above conditions and the consequence was, I had my boxes half full of nice new comb and honey, before the wild crab-apple and wild plum were gone, to say nothing of our orchard blossoms.

APPLE BLOSSOM HONEY, HOW TO UTILIZE IT.

The honey obtained is scarcely merchantable, but the beauty of it is, the bees will use it out of the boxes to raise young bees, and so have the combs in boxes all ready prepared for the white clover harvest. Now if the above conditions, or something like them do not exist, don't be in a hurry to put on boxes, would be my advice. So after all, we can but say it is a matter of judgment subject to certain conditions, and leave it.

TOO MUCH HONEY, JUST ENOUGH.

I see questions asked and instructions given in almost every bee journal as to what should be the condition of stocks when prepared for winter. Almost all advise "if the hive is too full of honey extract it from at least two combs in the center," &c. So would I if I ever found such a one; *but I never did* when the stock was in a normal condition. A weak swarm of bees no bee-man can afford to winter;—double them up. If there is one thing more than another in bee culture that I believe in, it is *strong stocks*; and anything that will bring about such a condition of things will lead to success. How much pumping out does such a swarm need after setting out from the close of the honey season until the last of November? Not much! That hive full of honey and bees, well packed and put in the cellar, will come out in the spring with some 10 or 15 lbs. less in stores, strong in numbers, little or no dwindling if the packing remains, plenty of stores to keep up breeding, and will be fully ready for the honey harvest when it shall come. R. H. MELLEN, Amboy, Dec. 8, 1876.

We heartily endorse all the above.

FROM DOOLITTLE ONCE MORE.

DEAR GLEANINGS:—If at any time you think we are taking too much liberty in criticism of matter found on your pages please give us a gentle hint, and we will do so no more. On page 206 we find that the average life of a worker bee during the summer season is but 30 days, and as Novice does not say otherwise we take it for granted he believes this to be a fact. One experiment however will convince him or any apiarian that the average life of the worker is 45 days or one-third more than given above. Take a black stock for instance the 10th of June and introduce an Italian queen so that she shall commence laying on that day. In 21 days the last black bee will have hatched, and at the end of 45 days from the time the last black bee emerged from the cell. no black bees can be found in the colony. At 40 days plenty of them can be seen and but very few the 44th. And right here I would say that at 15 days from the time the first Italian hatches if they are at work in boxes we will see none but black bees going in and out at the entrance, while those in the boxes will be all Italians, showing conclusively that the bees that gather honey are not the ones that put it in the boxes. Again, we find on the next page that a worker may live six months if wintered in the most successful way, while experiment will show that they will live 8 months. For instance, we have introduced Italian queens to black stocks the middle of Sep. and have had many black bees in said stocks the first of June of the next year. Italians are said to live longer than black bees, but I have never conducted any experiments on that point.

BEES, HOW LONG DO THEY LIVE?

We cannot agree with those who think the Italians will not enter boxes as readily as black bees, or that they will not go to the top of the box to commence work, for all our experiments and practical experience go to the contrary. Our Italians not only average more honey in the box, but are at least 10 lbs. ahead in stores when winter comes. That the Italian bee is any larger, or has any longer tongue than the black bee we could never see, but they are far more industrious; toiling and persevering for that which the black bee does not think worthy of notice. For instance, a number of years ago, when we had 15 colonies of blacks to 3 of Italians, we put a little sugar into some maple sap and started the bees with honey; they came in about the ratio given above, but as soon as the honey was gone the black bees quit, while the Italians carried off the whole. So we have repeatedly found that while the black bees and poor hybrids were starving, the Italians would make a small gain every day.

SWARMING, NATURAL AND ARTIFICIAL.

We wish we could agree with A. J. Cook in regard to natural swarming but we cannot, for we have made artificial swarms by all the different ways given and have come to the conclusion that in no way can an artificial swarm be made, that will work for the first few days equal to a natural one. A natural swarm has the wax already secreted before it leaves the parent hive for a start in its new home, and will build more comb in the first 24 hours than an artificial one will make in the first 60; also the natural swarm has the right proportion of bees of all ages for nurse bees, wax workers, gatherers, &c. As for each hive having a laying queen, one can be introduced to the old stock as soon as it swarms, thus providing them with a laying queen at once; but such a stock will hardly compare with one that raises its own queen, if they are not allowed to swarm the second time. There is an impetus about both new and old stocks by nature's course that cannot be given by any artificial means.

QUEENS, HOW MANY EGGS SHOULD THEY LAY?

In the *Bee World* for Nov. we notice that H. Alley, of Wenham, Mass., says: "A good, prolific queen, say one that will lay one hundred thousand eggs in a year, will play out in two years." Now let us look a moment. We give the smallest brood capacity for a hive, of any apiarian in America,—about 800 square inches. This is kept filled with brood from the first of June to the middle of

August, or 75 days. As there are 50 cells to every square inch of comb, the queen must lay 40,000 every 21 days, or 142,860 in the 75 days. Now all good colonies will have brood by Christmas, and by taking the average increase of eggs laid from then to the first of June, and from the middle of August to the time of ceasing to lay, which is about the first of Oct. with us, we have at least 100,000 more or 243,000 for the year; and this for the smallest brood chamber in use. What Adair and Gallup claimed for a queen would be 3 times this. Our queens will average good and prolific for 3 years, or are good for 729,000 eggs. Why so small a statement is given we cannot conceive, unless it is to sell short lived queens. Friend Cook in his manual gives from 20,000 to 40,000 workers in every good colony, and their age as three months. He also states in said manual that a good queen may lay 3,000 eggs per day. How can we reconcile these statements? Will Novice tell us?—as he says this is the book for beginners. Three thousand eggs for three months would be 270,000, instead of from 20,000 to 40,000. Will the readers of GLEANINGS read 133d page for description of mud hut instead of 152. With proper attention this hut need not vary more than two degrees during the winter. Ours stands just the same although at writing the mercury outside stands at 8° below zero. G. M. DOOLITTLE.

Borodino, N. Y., Dec. 12, 1876.

We shall be very much obliged indeed to any of our friends who will call attention to errors that may creep into GLEANINGS, for it is the very best way to teach us to "look sharp." Where we have such a multitude of new beginners thirsting for knowledge, it is not only unsafe, but often positively dangerous to allow gross errors to pass unrebuked. We always intend to give the average life of the worker bee at *ninety* days; less in summer, and more in winter.

CHAFF HIVE, HOW TO MAKE THE INSIDE.

PLEASE tell more about your chaff hive; I understand how the outside is made but not the inside. Do you use the same corner pieces inside? Is chaff the only thing you use to separate the inside from outside, or to keep the inside from settling on the bottom with the weight of honey, that you "'spect" to have in "'em?" I do not understand how you can lift the brood combs out without removing the upper story. Don't you have to remove the frames or section boxes first?

Smithville, N. Y. L. HEINE.

If our friends will carefully go over the description given in our Nov. No., we think they cannot fail to get a correct idea of the way in which the chaff hive is made. The inside is made of the same kind of siding with the smooth side inward. Nail it together as cheaply and roughly as you please; the more cracks there are, the better will the bees get the benefit of the chaff; and if the frames are well supported and no space is left for them to build combs except in the frames, we have all that is needed. The inside is unconnected with the outer shell, except at the top and bottom; at the bottom a stout strip is put across under each end, and the upper story rests firmly on the lower, to sustain the 100 lbs. of honey we "expect." Bear in mind that you can let the ends of the boards project any way you like, so you are careful to get the inside dimensions just right. Be especially careful to have the length of the hive exact, and to give the ⅜ in. space at the ends of the frames; to make sure on this very important point, and preclude the possibility of any of the "boys" nailing the ends of the hive too near or too far apart, we rabbet the side boards, or rather halve them, so that the end boards *must* come just right. The siding for the inside is cut out with square edges, not on a bevel as for the outside, and the width is such that 3 pieces make the side of one story. The ends of the hive are ¾ in. narrower than the sides, that we may nail the tin rabbet directly on the top—the back of the rabbet being in contact with the chaff; now by using siding 3 in. wide for the ends, and 3¼ for the sides, we come out just right, and the upper story is made in the same way, except that we use longer ends—10 frames above and 14 below. We have to remove the frames or sections above to get at the brood comb, to be sure, as you do with any upper story hive, but you do not have to remove the upper story, it being larger both ways than the lower one. If we could have frames run the same way in both stories, so that by removing 3 or 4 combs we could lift out a brood comb below, it would be quite desirable. But after long and anxious study we decided it to be one of the impossibilities, unless we brought in loose pieces, or machinery that could never be tolerated in a bee-hive.

HONEY; HOW TO GET IT AWAY FROM THE BEES IN A "LUMP."

A one story Simplicity hive can be set *in* the upper story of the chaff hive without any trouble, thus enabling you to lift all the upper frames or a full set of sections at one operation, but if you undertake it with a set filled with honey, unless your taste for heavy lifting is greater than ours, you will prefer to take it in 8 or 10 lb. installments,—a frame of 8 sections at a time. The single story Simplicity will probably be the cheapest shipping case that can be made, and as it shuts close and tight will be quite handy for retailing. In fact, the case, if entirely filled, may be removed from the hive, set in front of it over night to let the bees go out, and then sent to the store to be sold without even removing a section. Weigh it when carried to the store and again when taken away, and you know exactly how much honey you are to be paid for. For convenience in lifting we make handles to these single stories.

SECTION BOXES, AND HOW TO MAKE THEM.

A "SHORT CUT," FOR MAKING FRAMES, BOXES AND LOTS OF THINGS.

DEAR readers, I have something pleasant to tell you, and I rather expect it will set some of you crazy that have buzz saws, and may have the same effect on some that have none—it may make them crazy to get a saw. It looks very simple and easy now, but you can scarcely think how I experimented and blundered, before I got so far along.

Well we want some well seasoned pine lumber, and it may be of any width or thickness, in fact if the boards are all widths, it will do no hurt. First saw the boards up into lengths of about 38 inches. When you have got quite a good pile, saw a part of them into 2 inch strips, that is if you have decided on 2 inches as the proper distance of your section boxes from centre to centre. This is the distance we shall use, and we will go ahead accordingly. Turn these strips up edgewise, and saw off thin strips, just ⅛ in thickness; perhaps the ⅛ had better be pretty plump, but we can work that thickness very well. After you have quite a lot, pile them up in bunches of perhaps 40 or 50, and take some strips of stout paper, flour sacks for instance, and with small tacks, fasten the strips so they can be handled like a solid 2 inch plank. The idea is, to have this bundle of strips so firm, that you can lay it on your saw table, and cut off lengths just as if it were a solid plank. We use strips of paper about 1 inch wide, and tacks so small, that they can be pushed in to the heads, with the thumb nail. Now put on these strips at such distances that in cutting off the lengths for sections, the saw will not strike the tacks, and that each bundle may be tied with a strip of paper. A part of the advantage of this way of working is that we get 450 pieces by running the saw through 50 times one way, and 9 times the other, and moreover our stuff is put up in neat bundles and counted when we get done; in fact the individual pieces that make the frame or section are never handled singly at all, by the one who makes them. All kinds of frame and box stuff can be made in the same way, and the pieces are of an exactness in dimensions, that can never be attained by the method of sawing them out singly. We will call this invention No. 1.

The former is for nailed frames, and our next "bright idea" is to show you how to put these together without nails. Well, set your saw table so that it will allow the saw to cut just ⅛ inch in depth and then fix a steel blade in the saw table so that it will project above the surface just ⅛ of an inch. This blade is to be parallel with the saw, and just ⅛ of an inch from it. Very well, now take one of those bundles of side pieces—4¼ inches long we make them—and stand them on end with one corner against the steel strip. We will call this steel strip a track, for convenience; push the stuff through, and you will have a single groove across all, ⅛ deep. Now set this groove on the steel track—the track is perfectly straight, and just fills the groove cut by the saw—and saw the next and so on; the last saw cut being set on the track to saw the next by, every time until the whole bundle is grooved, as we have explained before, on both ends. Anyone can do this, and it requires very little machinery. To be sure we can not work as fast with one saw as we could with a dozen, but if we do 50 pieces every time we go through, it is not so very slow after all. By using a wabbling saw—see page 102, Vol. IV—you can cut these grooves of any width, and thus make this kind of dovetailing suitable for large boxes and even bee hives. Such a hive with the tenons nailed, would be very strong indeed.

FDN., HOW TO FASTEN IT IN THE SECTIONS.

Our third and last "invention," is the greatest of all, and it has occurred to us many times, that it would make a most beautiful patent: the trouble is that everybody after once seeing it would adopt it forthwith, and Oh, dear, what a time I should have in collecting my just dues. Now I most positively forbid anyone using it who is not a subscriber to GLEANINGS, for it is for our readers alone. If any of you that borrow your paper *do* use it, I don't know what I shall do, but it will certainly have something to do with the "U. S. courts."

Now the great problem was to attach a sheet of fdn. to the centre of one these ⅛ strips, to have it so secure it would bear shipping, and yet have the device so simple, that we could still sell the section boxes for one cent each. "Can't be done?" Well we thought so a great many times, but we would not give it up, and we "licked" after all. Did you never get your finger pinched in a door, or in the hinge to the table leaf? Well, if you were to put a strip of fdn. in the crack of the table leaf and then lift the leaf up, it would probably stick. Now you have got the principle; the top and bottom bars to our sections are 1¾ inches, or ¼ narrower than the uprights; we will take these long strips—38 inches long—and if there is a difference, we will sort out the best half of them. Now take them and run them over the saw so as to cut a groove lengthwise exactly in the center, and so nearly through the stick, that it will bend somewhat like a hinge. Very likely you will pronouce this a flimsy arrangement, and I really thought of the plan weeks before I had courage to try it—but it really works beautifully when you once learn how. At first one is very apt to break the sticks in two at the "hinge," but if you will lay one of the sticks on the table and the top bar on it so that one-half projects over, you can bend it back safely until the fdn. can be slid clear to the bottom of the groove. Now lay it on the table, and as you push the uprights into place, you will find the fdn. so much of a fixture that it can be torn in two, before it will come out If you are awkward and break the top bar clear in two, you have done no harm except making yourself a little more trouble; put in the fdn., and press the pieces together when you put in the uprights, and it will be all right.

HOW TO PUT THE SECTION FRAMES IN THE HIVE.

The fourth great invention—you see I am "prolific"—is hardly mine, for it has been borrowed from several of you; eight of these sections, 4¼ square, just fit inside of an L. frame.

Now a common frame is not a good thing to hold sections for several reasons, principally because the bees would cover the exposed portions with wax and propolis, and as we mean to stop this entirely, we will make a frame with top and ends, 2 inches wide, and bottom bar 1¾. As such a frame will have to be nailed, we shall have to use stuff about 5/16 in thickness all around. The pieces we sawed out 38 inches long, will be just right for them, for each piece will make a top bar and 2 ends, or 2 bottom bars. These frames filled with sections, can be used entirely in the top story, or we can have one on each side in the lower story, thus securing the advantages of side storing, without any fuss or bother, and we can at any time remove the whole top story, when we wish to get at the brood combs.

DEPARTMENT FOR BOX HIVE BEE-KEEPERS.

JUST listen a minute! We saw a book advertised, How I make $850.00 a year with my bees. Price 25c. Of course the book was sent for and lo! it was an English work, and only treated of box hives and common bees. At first, I was almost inclined to think it deserved a place among the humbugs, but as I glanced over its pages I found that the author advised for stands for bee hives—what do you suppose, dear reader? American *cheese boxes*. Further on, we find there are three ways of getting honey; top storing, side storing, and bottom storing. Stranger still, this writer says it makes little difference which plan be pursued, for the bees will make about as much honey one way as another. As bottom storing requires the least labor, he rather prefers that. Now where do you think he advises us to have the honey stored? Why in the cheese box of course, and all the labor necessary is to cut three slots in the bottom 3-16 wide, and three or four inches long, put on the cover, turn it bottom upward under the hive—our friend uses nothing but small cheap straw hives, compelling the bees to put all their surplus in the cheese boxes—and go on your way rejoicing. With this very cheap and simple way of managing, one man can attend to two or three hundred hives. Hoo-ra-a-a-a-a-y friend Heddon! Come along man, and don't be bashful, we have found your "sphere" at last. Imagine vast apiaries of straw hives, all perched on cheese boxes; cheese boxes piled into pyramids rivaling those of Egypt, cheese boxes loaded on wheelbarrows, carts and wagons, and finally a generous cheese box as a centre piece for the dinner table, with papa carving out huge cakes of honey for the expectant juveniles. If the apiary were located on a side hill, we might just turn the boxes up edgewise,—whew! We cannot waste another line on the subject, but we will send you the whole book for 25c.

MACHINERY FOR MAKING FDN., AND PLASTER CASTS FOR STARTERS, ETC.

SHOULD any of the readers of GLEANINGS wish to make a plaster cast to experiment on fdn. with, they can get a very perfect one by using a piece of fdn. as follows: Lay the wax fdn. on a smooth level board, place a frame rim (just as large as you wish your cast) upon it, and fill it with plaster, using a little alum with the plaster to make it harder and firmer. In this way you can get a cast as true as the wax sheet, and by taking a second cast from the first you can get from this a metal plate, or type, that will make a true fdn., with the base of the cells raised; but running metal on the first cast taken from a wax sheet, and using it as a type, will give a fdn. with the surplus wax in the bottom of the cell, and a depression where the sides of the cell should commence. A man who understands working plaster can cast metallic rolls (as one of my friends demonstrated) perfectly true, by wrapping a sheet of wax fdn. around a true wooden cylinder, and filling around with plaster; after it hardens, draw out the wooden cylinder and then the wax sheet; put in your shaft and your melted metal, and you will have a roll as perfect as can be made by hand, but the cells will be the reverse of the wax sheet you used. By this method I think fdn. machines ought to be made for ten or fifteen dollars. J. F. LAFFERTY.

We give the above because there are so many inquiries in regard to the matter, but we hardly think our readers would use plates for making fdn. on the old foreign plan, if the plates were furnished them without charge, the process is so slow and unsatisfactory compared with rollers. We fear those who are trying to make two rolls that will work together without injury to each other on the plan mentioned, have failed to take into account the great accuracy required for such machinery. The plaster casts may do very well, for starters only, but would not plain thin wax sheets do as well? See the following:

About the plaster foundations I may say that to my mind they were quite satisfactory, not having used those made by you or others. I got my casting from J. P. Moore; it is drone size—I should say about 4 to the inch. With regard to the plain wax sheets I may remark that I filled your case of sections with them as before stated, and gave them to the bees August 8th; one had your foundation as sent by you, and I found that they took to the plain sheets more readily than your fdn., and in the J. P. Moore boxes I thought they preferred the plaster fdns. to the plain sheets. Perhaps I am not a sufficiently careful observer to be reliable, but I give you my present opinion on the subject. I hope to use your foundations next season and compare with the plain sheets and plaster. The editor of the *British Bee Journal* has, I think, all along asserted that plain sheets are as good as anything. I have omitted to mention what may perhaps be important; that in some of J. P. Moore's boxes I put natural comb, and I did not observe that they took to them more readily than to the fdns. "BRIAR."

The statement made by the *B. B. J.* was in regard to the fdn. made by the English plates, which has no walls at all. The fdn. we make is often raised into comb containing honey, in a single night, and this with a whole frame, which we think almost an impossibility with plain sheets, to say nothing of having it entire *worker* comb. They build drone or worker, as it happens, on plain sheets.

BEE BOTANY AND ENTOMOLOGY.

ROCKY MOUNTAIN BEE PLANT.

PROF. COOK:—I send you by mail a branch of a wild plant which grows abundantly and is known here by the name of Cleome. When young it resembles a young tomatoe plant, blooming continually from about the first of July until frost comes. It grows from 2 to 8 feet high with a strong stock and much resembles the mustard plant. Bees made large quantities of honey from it of a light color and fair flavor. Please give me the true name. Bees have made the most delicious honey from the wild raspberry plant. It has a very light color, delicate flavor and as some say, tastes as though perfumed. Winter our bees here on their summer stands. CHAS. E. MCRAY.

Canon City, Col., Nov. 19th, 1876.

This is the Minnesota or Rocky Mountain Bee plant. Scientific name *Cleome integrifolia*. I am surprised at time of bloom, July 1st. Ours did not bloom till September. If this will bloom July 1st, it is an invaluable plant for honey. A. J. COOK.

OUR OWN APIARY.

CHAFF DIVISION BOARDS, HOW TO MAKE.

THE bees that are wintered on six combs, chaff cushions at each side and over them, are in the most beautiful condition to our notion, of any we have ever seen under any circumstances. It is now the 6th of Dec., and we have had some nearly zero weather, yet the bees in the hives mentioned are clustered clear up to their chaff cushions on all sides, and we have even in winter a hive full; although they are compelled to cluster on sealed honey, it causes them no inconvenience for it is *warm* sealed honey, not cold. These chaff cushions for the sides of the combs, are made just enough larger than a frame, to close the space close and tight at the ends, and to come a little above the tops of the frames. To prevent the chaff from settling down to the lower side, and from bulging the cushion in the centre, it must be tacked through the middle with stout thread, or small twine. We are inclined to think these cushions will prove the most effective and convenient division boards ever devised, for they will fit any hive even if daubed wiih propolis, can be easily taken out or moved, and they are soft and warm for the bees. Ours are thick enough to occupy the space of two combs, and for winter, six good L. combs are sufficient for any colony. With the honey in this number that is ordinarily scattered through ten combs, there can be no possible danger of the bees getting over to one side of their hives, while their honey is on the other.

GETTING AWAY FROM THEIR STORES; REMEDY.

This latter trouble we believe is especially characteristic of a ten frame L. hive. The idea that bees can not winter on sealed honey, we believe is pretty generally exploded, and that they die in wintering because they have too *much honey* we believe most agree to be more theory than practice. That the Italians frequently so fill the hive in the fall as to prevent the queen from keeping up the population, no one seriously doubts, but a good colony of bees put on solid combs of sealed honey about the time they cease gathering will so far as we can learn, consume enough to have a safe brood nest before severe freezing weather. GIVE US PLENTY OF BEES, AND WE WILL TAKE ALL THE RISK OF TOO MUCH STORES.

It is quite likely that any ordinary hive would winter very well by having the two outside combs (on each side) replaced with these chaff cushions, and a good thick one above. It has been several times suggested that a thin cushion be put between the end of the hive, and the end of the frames for winter, making virtually a closed end frame, and this may be done very readily, when we winter on six combs. If the back and front of the hive were made double thickness and packed with chaff, the foregoing would make a pretty effectual protection. With suspended frames, perhaps the most exposed point is the rabbets where the frames rest, and we know of no effectual way of protecting these except having the upper story longer than the lower. This we accomplish nicely with our chaff hive, and so far we have found them to work with much less trouble than any other; heavy combs of honey are handled in the lower stories even with greater facility than in the ordinary hive, for we can rest against the eaves of the hive while raising and replacing them, and no upper story to lift off and put back at any season of the year. The hints we have given in regard to chaff packing, will apply any time during the winter, and if it really will check spring dwindling as seems the case now, we can well afford to "tuck them up" even as late as April or May, if it has not been done sooner.

DISTURBING BEES DURING COLD WEATHER.

Neighbor Blakeslee does not put his bees in the cellar until the first good fall of snow, for he loads them on his sled and draws it close to the cellar door. Well, our first snow this year came at a temperature 10 degrees above zero. This he said was just right, for it would keep the bees quiet. It didn't though, for they boiled out at the entrances, and objected every way they could. We told him how L. C. Root lets his thermometer down through a hole in the floor to avoid disturbing the bees, and asked if he did not fear to move them when it was so cold, but he says he *knows* it don't hurt them. What do our readers say?

HONEY THAT WON'T CANDY.

Another strange feature; you remember the hives that were piled up three or four stories high? Well, many of those heavy combs were built on fdn., consequently they were very nice comb honey for table use. Well, one of our grocers had a pan full of broken honey that he was selling for 25c., and we told him we would furnish him all the broken honey he wished at 20c., and would give him a much nicer article than any he then had. As this is clear honey and *no sticks* at all, it sells very well among a certain class. Now what do you think? The honey from these frames that were in the hives perhaps a couple of months after being capped over, does not candy at all, even though left in a liquid state below a zero temperature. It is so thick that a jar full may be turned over without even ruffling the surface when thus cold, and yet it is like clear glass. For table use it is ahead of any honey we ever—the fact is, our regular diet at present is a pitcher of ice cold milk, nice bread and butter, and comb honey cut out of these frames. Is it superior to that built in the sections? To be sure it is, for they were nearly all removed from the hives as soon as filled. Are milk and honey wholesome? I walked 5 miles to that mission Sabbath school and back yesterday, and part of the way through snow drifts and a snow storm, aye, and darkness too, for the last two miles, yet my strength failed not. I feel like being rash enough to say I will never extract any more honey until it has every bit of it been sealed; and if keeping it in the hive several weeks more will prevent candying entirely, don't know but we shall do that too.

HOUSE APIARIES; VENTILATION.

15th—With the heavy colonies we have now in our house apiary, we find the walls and ceiling not only damp, but at times literally dripping with water; in fact just as our out door hives would be with a cap perfectly tight. Of course there was no other way but to cut a hole through the ceiling; and since making one a foot square, we find quite a different state of things. Now while the room was thus damp and wet, we found the chaff cushions and the bees under them, in as nice trim as you please; have not chaff and straw some rare property of absorbing and alleviating the effects of wet and dampness? Of course this hole also reduces the temperature of the inside considerably, but if the bees are well packed in chaff, what does it matter? The house is much warmer than out doors, even now, and there can be no great amount of draft through the entrances so long as the chaff covering is close and snug.

We have had weather 10 below zero, but all the bees under chaff, passed it as bright as dollars; one that had a very tight cap over them, showed frost and dampness above the cushion. There must be ventilation, for strong colonies.

SECTION BOXES WITH CLOSED TOP BARS, ETC.

WE want 1400 section boxes as follows: 5 in. high by 6¾ in. long, the ends or *uprights* to be 1⅞ in. wide, the top and bottom bars 1½ in. wide; to be made of 4 pieces. Don't like your box of 6 pieces they are too *open*, can't confine the heat so well. We expect to work our hives with two sets of boxes *i. e.* two teirs high, and *did* think of having half the boxes made with the *top* bars 1⅞ in. wide, same as the uprights, and setting them on top of the lower set. Then we would need no quilt to cover openings with, and as the bees always propolis the joints air tight, all we would have to do to retain all the heat would be to place a thin board at the sides of the boxes. As for putting in the fdn. for guides, that don't bother us in boxes of this kind. Think we will try some fdn. cut ½ in. wide and full length of box inside; to fasten in, we will make a small shallow pan to hold melted wax, keep it hot and dip the edge of fdn. in the hot wax then stick it to the top bar. We use pieces of comb that way and have no trouble whatever.

Give us your price for boxes made our way, also what you think of our idea of using the top set with close fitting top bars; also if there would be any difference in price between them and those with open top bars, and we may yet conclude to have half of them made with the top bars 1⅞ in. wide. We used them in that way last season, (though but one set to each hive) and I must say that I like them so. No trouble with quilts, bees getting outside of quilt and boxes etc. etc.; but when it comes to using boxes two tiers high, there might be trouble; say in case we wanted to change them from *top* to *bottom*, what then should we do? But I think that is *borrowing trouble*.

Our hives will not admit of our using any other sized box. As we use a 12x12 in. square brood frame, 2 boxes 6¾ in. long fill the space. We shall want 500 brood frames (metal cornered) and the 1400 surplus boxes before spring, as we wish to have every thing ready for business before the season commences. In time of peace prepare for war.

J. M. BROOKS & BRO.

P. S. We have our 90 colonies in the cellar, and can only *hope* to have our usual success, losing NONE.

J. M. B. & B. Columbus, Ind. Dec. 6th, 1876.

We too have had a strong "hankering" for boxes with a closed top that we might get rid of the quilts, propolis, etc., and we will make such at the same price. An examination of our new box, will we think show that we pretty nearly agree with friend B. and a multitude of others, in regard to the coming wants.

DOOLITTLE'S SYSTEM OF RAISING COMB HONEY.

LEST some of our friends should get an idea that Mr. D. does not favor honey extractors, we will remark before commencing that he assumes that only about ⅓ as much honey can be secured in the comb, as with the extractor; and if we recollect aright, he says if he could be assured of 10c. as promptly as he gets the cash for his honey in the section boxes, he should think seriously of using the extractor.

Mr. D. uses a frame—Gallup—just 11¼ by 11¼ outside dimensions. Top bar is 1 inch by ¼ by 13¼; side bars the same except in length, bottom bar 11¼ by ½ by ⅓. This frame is all of basswood, and is nailed with 4 finishing nails only; these nails are 1¼ inches, and perhaps few besides friend D. could drive them into ¼ inch lumber their whole length without splitting. For a comb guide, a strip of that nice yellow wax is run exactly in the middle of the underside of the top bar, by means of a straight edge of wood on the plan we have given so many times in GLEANINGS. The hive that holds these frames, is something like our old standard hive except that it is exactly 2 feet long inside, instead of 28¼ inches. This two feet of space would take perhaps 17 frames if used for the extractor, but friend D. like our neighbor Dean, gives his bees only so many combs as they can cover, and not a square inch more. In the honey season, the queen is expected to have as many combs as she can fill with brood, and this is gauged so exactly, that if any honey is gathered, it must be put in the boxes, and not in the brood combs. For an ordinarily full colony, 9 frames are put in the centre of the hive; this would leave the space of four frames on each side. On each side of these brood combs, is placed a ¼ inch division board with ¼ inch slots cut in it to allow the bees to go into the side boxes. These side boxes are of course, just like those on top, and the one we have now in our hands, measures 5¼ by 6¼ outside. The top and bottom bars, are exactly 5 inches long, by scant ⅜ by 1¾. Uprights ⅛ scant by 2 inches, of course they are 6¼ long. These thin uprights are nailed into the ends of the tops and bottoms, with cigar box nails, and as the latter are made of swamp elm, and the former of nice white basswood, we have the strongest section box that perhaps has ever been put in the market, for one so light. The tough light springy basswood will allow of the box being thrown on the floor, without even starting the nails. If you have made a box according to these directions, you will see that the thin uprights project beyond the tops and bottoms, a little more than the thickness of a light of glass. Suppose you cut a light of glass 5x6 inches so that it will just press in between the uprights, and rest on the top and bottom pieces, lapping on to them just ⅔ their thickness it is evident that two glazier's tins, will hold this glass perfectly secure. These tins are triangular ⅝ long and ⅜ broad at the top. They are forced in point first, $\frac{5}{8}$ in. from outside edge of each of the hard wood pieces, until they project only $\frac{1}{4}$ of an inch; when the glass is dropped between these, and between the uprights, we have only to bend the tins over on to it with the thumb nail, to make it a fixture. As these tins will bend a great many times without breaking we can remove any glass in a twinkling; and now comes the beautiful feature of the Doolittle box, or as he insists on our calling it, the Betsinger box, for it really is the invention of our excellent friend Mr. N. N. Betsinger, Marcellus, N. Y. Mr. Betsinger we "doff our hat" —by the way will not all our readers do the same while we thank friend B. for the service he has done us in inventing such a very ingenious box, and for so very liberally tendering it as a free gift to his fellow bee-keepers.

Now for the beautiful feature; the box is made, the tins put in, but not the glass, and as the tins would be in the way in placing them on the hive, they are to be bent down flat, as fast as they are inserted. Now if two boxes are placed side by side on the hive we shall have a space for the bees to go in, just twice the thickness of a light of glass, which is found to be all that is needed; and we believe so small that the queen never gets into them, and yet when the glass is inserted after they are filled, everything is closed up and we have no occasion to fuss with pasting something over the holes where the bees went in, as with most glass boxes. Of course these boxes can be sold without being glassed, if one chooses; and for a home market, this will doubtless be the way, but for a city trade (and Mr. D. says he can get more for his crop by the ton, than his neighbors would pay him at retail,) without doubt it should be glassed, and to have the honey built true enough to glass without trouble, we must use the tin separators.

Before describing the manner in which the separators and the cases that hold the boxes are used, we will mention that we were somewhat inclined to quarrel with our friend because he does not utilize all the space inside of his hive. For instance, his hive inside is just 1 foot, but two boxes placed side by side are only $10\frac{1}{2}$ inches. The depth of his hive is also 1 foot, and the height of two boxes one above the other, is cases and all, 14 inches; the top boxes, rise 19 inches above the bottom board, giving us an unoccupied space of 5 inches above the side boxes on both sides of the hive. As friend D. says this is exactly as he wants it, perhaps we had better describe it as it is and keep still. A case is made to contain just two boxes, but they can be made to hold 3 with the Langstroth hive. The case is used to hold the separator, to keep the bees from soiling the outside of the boxes with propolis and to close the top opening that no quilt or strips need be used. It is made of basswood, tops and bottoms are both exactly of the width of uprights of the boxes, but are 3-16 thick. Top bar is $12\frac{1}{8}$ inches long and bottom $11\frac{1}{2}$ long; this leaves a projection on the top bar of a little more than $\frac{1}{4}$ of an inch, that allows it to be suspended like a frame, when used to hold side storing boxes. The bottom strips are cut down in the centre to the width of the bottom of the sections, to allow the bees to pass in. The ends of these cases are of the same width as top and bottom, and are made $\frac{1}{2}$ inch; the length is such that the boxes just slip in closely. The tin separators are tacked to these uprights, and are 5 inches wide; these are put on so as to leave just equal spaces above and below the tin, and it were well to remember that in all arrangements with separators, the bees are liable to make bulges in the comb, where a space of much more than $\frac{1}{4}$ inch is left. When a separator is tacked to one side of each case, and the cases are placed side by side, close up, we have each comb built between two tins, and necessarily straight. Next month we will tell you how they are placed in and on the hives.

DRONES AND DRONE COMB; HOW TO GET AN ABUNDANCE OF.

WE have been having a great storm of wind and snow; the mercury went below zero last Friday night, and it has been nearly as cold ever since. It is now 8 o'clock in the evening, and I have just been out looking at a swarm of bees packed in chaff, and found them all right. They came up and took a look at the light, but did not try to fly. I am trying five, 2 without packing and three with,—but they all have thick pillows of chaff over them. They have plenty of snow around the hive; I have wintered bees under the snow several winters; they get along well enough till into Feb., and generally get through, but towards spring, as the snow begins to thaw and freeze, making ice (a good conductor of heat), it keeps a steady chill on them which is worse than a short cold snap. I have been looking at an essay written by Dr. Rush on wintering bees. He tells us about ar- artificial swarming, and says in substance, when your queens are hatched, take frames of mature brood from each of 5 different hives, put them in a hive and give them a queen, and in place of the frames taken out put empty comb if you have it; if not, put in *empty frames*. Now we want to tell a little of our experience in that line. Some 8 or 9 years ago we were lying awake nights studying on the bee business, and with the rest we got the idea into our head (this was in early spring) that there could be a big thing done in artificial swarming. We had it (in theory) surely; it would work without a doubt. We built some very extensive castles on it, between that and swarming time, and when the time came round all right and the bees were strong and had lots of brood just right, we went round to a number of swarms and took a frame of brood from each, put them all together in a hive, and gave them a queen cell; we also put empty frames into the old hives from which we took the brood. The young swarms (for we made a number) came on in time and did well; but the old ones, what did they do? They built the empty frames, every one full of drone comb, and filled it with drones. Our theory was smashed, and our castles fell, never to rise again on that subject, and we have never been able to get strong swarms to build worker comb in any of the middle frames before swarming time; not even the blacks, as good comb builders as they are. Now I have seen this advice given through the bee papers by a number of extensive bee-keepers (said to be), and Mrs. Tupper I think gave the same.

I should like to have you ask the bee-keepers of the country what their *experience* (not their theories) is in reference to the matter. If there is a kind of bee that will build worker comb every time we must hunt them up. E. STANHOPE, Pentwater, Mich., Dec. 11, '76.

GLEANINGS IN BEE CULTURE.

Published Monthly,

A. I. ROOT,
EDITOR AND PROPRIETOR.

MEDINA, OHIO.

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[*Including Postage.*]
For Club Rates see Last Page.

MEDINA, JAN. 1, 1877.

And as he thus spake for himself, Festus said with a loud voice, Paul, thou art beside thyself: much learning doth make thee mad. But he said, I am not mad, most noble Festus; but speak forth the words of truth and soberness.—Acts, 26; 24, 25.

◆

STAMPS of any denomination, and in any amount are always just as good to us as money.

◆

DOOLITTLE thinks a good colony will commence rearing brood by Christmas, but Hill puts it at February. We are inclined to agree with the latter, although winters like last, they may rear brood nearly all winter.

◆

ONE or two of our friends seem perplexed because GLEANINGS has been advertised by agents at 75 cents. They or anyone else certainly have a right to do this if they wish, for we send it for 60 cents to *anyone* who sends 10 names. One friend feared GLEANINGS was sold out; never fear, money can not buy GLEANINGS, so long as we are spared to administer to the wants of our little flock.

◆

MASTER ERNEST was to have 25c. each for sawing out the scroll work on the front of the Lawn Hive. By tacking three boards together, he sawed the whole lot—½doz.—in about an hour and a half. Pretty fair wages for a boy of 14—$1.00 per hour. Like prices can be made in making very much of the ornamental work used in building, on those pretty scroll saws for boys. The one he uses, is the Velocipede Scroll Saw, price $15.00. We can furnish them all ready for work at that price. Circular with cuts, on application.

◆

A QUEEN *may* lay 3000 eggs in a day, but we think they seldom do. Again, we believe less than half the eggs the queen does lay, ever produce bees. In the height of the season when everything is all right, most of the eggs are allowed to mature, but close observers, decide we think, that such is the case during a very small part of the year. We think Doolittle correct in theory, when he estimates 270,000 bees raised in 3 months, but alas for the actual count when reduced to practice. Would it take off about one 0?

◆

To attempt to use a buzz saw that is in poor order, especially on lumber that is not well seasoned is one of the most aggravating things we know of, but with a saw in nice order, and nice seasoned lumber, we know of no pleasanter work in the world. When you can saw strips 2 inches wide, 38 inches long and only ⅛ inch thick, so accurately that you can discover no spot where the piece is of greater or less thickness, you can think you are getting along pretty well. As help in getting your saw in just the proper trim, we know of nothing equal to the little pamphlet we advertise in our book list for 10 cents. It is from Disston, the great saw maker, and hits the important points in using saws in such a quaint good humored way, that it is pleasant to read, even if one is not in the business. We can furnish these superior saws at factory prices, and will send all less than a foot in diameter, very cheaply by mail. See price list.

BE careful how you send or order to be sent, articles of little value by express. To-day a package was handed us with over a dollar charges on it, that is not worth 25 cents. It was 100 end bars to frames that were sent to a customer by mistake. We returned him the proper ones by mail, at an expense of only 2 cents.

◆

IN making simplicity hives, be very careful to have them exactly alike; it is very easy to talk about, and to make good resolutions, but like our efforts in forming a perfect character, alas, full of imperfections after all. Make one hive first, and if that is not *exactly* as you want it, make one more, and so on until you are suited; then try "with all your might" to follow your pattern exactly. Remember we wish any cover to go on or under any hive and fit exactly: we also want every hive in a thousand to exactly fit over every other one. During the swarming season, reasons will occur for making it very convenient to change them about in ways innumerable that you have no idea of. If you wish to make the bottom a fixture, you can nail or screw it on very readily, and if you want such an entrance as friend Hill advises, bore a hole in the front end. There is such a great diversity of opinion in these matters that we leave the purchaser to fasten the bottom boards, etc., or not, as he chooses.

◆

FOUNDATION.

DEAR NOVICE: I am glad to report favorably of the comb foundations. I am more strongly than ever of my first opinion, that genuine beeswax is the best material, and I never want any more parrafine. The last lot being of pure wax was eminently satisfactory. If nothing happens you may expect my order next season for at least 100 lbs., and I shall want it *thick* and *yellow*. Whoever finds his bees will not accept and use for storing or breeding fdn. that is thick, has bees different from mine. There is to-day somewhere in one of my 100 hives a comb made from a sheet of wax one-fourth of an inch thick, and it has been in use 3 or 4 years. Another thick sheet of wax had *one side* worked by the bees and the other untouched, and these two cases lead me to think that a sheet an inch thick might as readily be accepted by the bees. I had some nice surplus clover honey from yellow fdn. running less than four feet to the pound, and the comb was quite light colored. B. LUNDERER, Dec. 9, '76.

◆

STRAIGHT COMBS, ALL ABOUT HOW TO SECURE 'EM.

DOES every "fool" that keeps a few swarms of bees write you about what wonderful things he, she, they or it, are doing? If so, and you read them all, I pity you and will suggest that you secure a place in some convenient lunatic asylum to retire to when it becomes necessary.

Last season I wintered three stands of black ugly bees out doors, they opened up finely in the spring and increased to seven that I know of. I took about one cwt. honey. I have no extractor and never saw one. This winter I have put the bees into the hen-house to winter. Now I want you to take the time to write me how I can manage to make my bees build straight on their frames; they insist upon building any way but straight. Now don't refer me to GLEANINGS for I have carefully read all I have and nothing tells me how to do this. I am willing to acknowledge my ignorance and want you to come out and tell me just how to do it. G. M. WING.

Manistee, Mich., Dec. 14th, 1876.

Tut! tut! friend W., we shall not go crazy at all, for our bees and bee letters are the food we live on. We lament every day that we can not write long friendly letters in reply, but we suppose our friends give us credit for doing the best we can.

To get straight combs, have your hive so small, or your swarm so large, that the bees fill it, and if that don't do, raise the hive in such a way that one end of the combs is higher than the other, the hive being level. If that don't do, make them build every comb between two straight ones—if you have none borrow some of friend Ellis; we saw some at his house—if that don't do, take the combs out and push them straight, as fast as they build them crooked. If that don't do, fill the frames with fdn.; if that don't do, come and make us a visit and see whether we are either crazy or have crooked combs.

P. S. If that don't—we really believe, now come to think of it, the whole trouble is because you winter them in the chicken house, and after such an indignity how could you expect them to do anything mathematical.

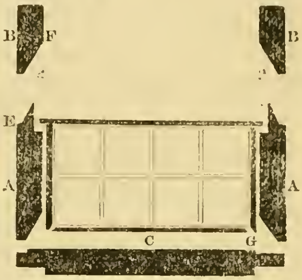
* * *

SIMPLICITY BEE HIVES; HOW TO MAKE.

IT may be laid down as a general rule, that people know what they want, and if instead of arguing in regard to the respective merits of comb and extracted honey, fdn. and no fdn., long hives and two story hives, etc., etc., we should carefully observe that people are buying, perhaps we should get much nearer the truth as to what is really wanted. Speaking of the fdn. reminds us that we have right here in Dec., with the mercury away down in the zeros, filled the two following orders, besides a lot of smaller ones. To E. M. Hayhurst, Kansas City, Mo., 200 lbs, and to C. D. Wright, Baxter Springs, Kansas, 50 lbs. both were for yellow, and the former expressly stated the fdn., was to be from 5 to 6 sq. ft. to the lb.

Now through all our experiments on hives, the great mass of our orders have been for the Simplicities, and we have just determined that if the people are determined to have these, we will by all means furnish them, and we hope this season to give some of a little nicer workmanship than any sent out heretofore. By the way, we are so well satisfied that thin hives was a mistake, that we will upon application send to all who are dissatisfied with them, a good Simplicity in place of all the hoop hives we sent out last season. This of course refers only to the hive, for the frames and inside work, will work readily in either. We find no trouble in wintering, but the bees fail to store honey next to the side of the hive, as they do in hives of inch lumber.

We will describe the L. hive, but those for any of the other frames are made in a similar way. An L. frame is 9⅛ deep, and we want ⅜ under the frame, between it and the bottom board; therefore, the distance of frames from centre to centre, when worked one above the other, must not vary very much from 9½ in. Neglect of this very important point, causes combs to be built between the upper and lower frames, or allows bees to be pinched or crushed when the space is too small. This settles the question then, that the depth of each single story, not taking the cover into account, shall be exactly 9½ inches. This estimate is based on having the hive reach up just level with the tops of the frames, and no more, for if we leave any space above, it will, in addition to the ⅔ below, make so much as to have the disagreeable comb building between them. Last season we decided on a hoop for this purpose, but we have now a far simpler way, as shown in the diagram.



The suspended frame containing 8 section boxes, as described on another page, will need no explanation. The pieces A, A, are of course the front and back that hold the rabbets. B, B, are 2 inch strips sawed from the 4 sides of the hive, to go under the cover which is shown at C, the cover and bottom board being one and the same thing. If we saw the cover clear off on a bevel as sharp as a square mitre—like that in the corners of picture frames—the sharp edge of the cover and bottom of the hive would be easily injured; besides when much weight is put on them they would be likely to open at the joints; to remedy this we will saw in square about ⅛ of an inch and then saw in on a bevel from F, to meet this; the space taken out by the saw, will give sufficient play to allow the cover to go on easily and yet rest firmly on the shoulders. The bottom of the hive is beveled in the same way, and as the shoulder at E, is level with the tops of the frames, it is plain that we have the same space beneath the frames when one hive is placed on another, as when it rests on the bottom board. The bottom board—or cover, for they are one and the same thing,—has a rabbet cut ⅛x⅜ all around the upper edge, to keep the hive from sliding about on it when moved. Now to make the entrance we wish to slide it forward, and that we may do this, we make the rabbet across one end of the cover, ⅞x⅛ as seen at G; this will allow of enlarging to a ⅜ entrance the whole width of the hive. When this is too wide, contract it with the sawdust that should always be spread about the entrance. The hives that filled 4 stories last season, had entrances of this description. The underside of the cover is rabbeted as shown, to allow of being securely cross nailed to the strips B, B.

We have as yet said nothing in regard to the way in which the hive is to be put together; but to make a clean nice job, the corners should be made on a mitre. By arranging a temporary table top to your buzz saw, this can be done quite expeditiously, but such a joint is rather hard to nail unless we provide especially for it. As we advise all ⅞ lumber, we want the hive just 16x20¼, outside measure, and the latter is most especially important or our frames will not have just the right amount of play and not pinch. Therefore we will have on our nailing bench, two very stout uprights just 20¼ inches apart, and place the end boards between these to nail. Use long slim nails, and cross nail.

A word about the frame of sections; 7 of these just fill one story, and they fill it rather too full for conveniently getting out the first one. At present I know no better way than putting in 6 only, and one metal cornered frame to fill out the space. This will lift out nicely, and then all the rest will come out nicely too. If this is not sections enough, just put two frames of them in the lower story, one at each side, and the brood in the middle, and we have the nicest and most convenient side storing hive, with 64 sections. Now about using the tin separators; I really do not know whether it is best or not, and therefore, we shall send one frame with the tin strips, with each hive. Use the very thinnest and cheapest kind of tin that can possibly be procured, and cut it into pieces 3½ wide, by 17⅝. Tack these to the frame that holds the sections, two strips to each frame. The tins are tacked to the uprights, so as to leave a space of ¾ of an inch between them just over the centre of the frame, where the upper and lower tiers of sections meet.

Humbugs and Swindles

Pertaining to Bee Culture.

[We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.]

WE are sorry to say we find the *Norris* spoken of on page 304, Dec. No., one of the worst kind of swindlers. We hope the barrel of honey he obtained of friend Gardner may be his last operation in this direction. Be very careful about sending honey to unknown parties. The fact that they have advertisements in many of our periodicals is no evidence at all—we are sorry to say—that they are to be trusted. If you are in doubt, drop us a postal and we will always answer such inquiries promptly. The following we clip from the Springfield, O., *Champion City*:

JOHN T. NORRIS. THE CHAMPION CONFIDENCE MAN.

The above gentleman (?) is an institution of which Springfield is *not proud*, and all its efforts of publication at home and abroad, as well as the efforts of the Ohio Legislature to frame laws that would meet his case, and save the country from his infamous swindles, have been of little avail. We had hoped that his short term in the Penitentiary would have been a lesson, but John is at his old tricks again, and invoices of goods and manufactured articles, merchandize, wines, lumber, etc., etc., are constantly arriving and fall into his clutches before the shipper can be apprized of his true character. We ask every reader of this notice to pass him round.

I see in your last No. that a bee-keeper in Michigan has shipped a barrel of honey to John T. Norris, of Springfield, O. John T. Norris is an out and out swindler; in fact I do not know that he follows any other business. JACOB ULERY.

Northampton, Ohio, Dec. 21st, 1876.

Please write if Mr. John Long has quit selling comb foundation, or is he dead? I sent him $10 Feb. 21st; he received it for I have the receipt; I have written two letters since. C. P. KAUFFMAN.

St. Paul, Minn., Dec. 16, 1876.

When we first accepted Mr. Long's advertisement he was doing business squarely, and we have for some time hoped he would "come to life" and make matters straight. This is the third complaint of the kind we have had against him. If he is going to make "ceresin" fdn. this season, we suggest that he commence by becoming honest.

NUCLEI, HOW TO WINTER.

IN Nov. GLEANINGS you ask how I prepared those nuclei to winter thus, and how they were kept. As they had no preparation save that of simply removing the roofs and covering the little hives, each with an additional quilt, I attribute my success to the nature of the place in which they were kept. Entirely for the sake of experimenting on this question of wintering, several years ago, in one corner of my cellar, I erected a frame work of "two by four" studs, upon which I tightly ceiled with matched lumber, so as to enclose a space exactly six feet square. I also "sheeted" upon the outside of the studs, with lumber. I then filled the enclosed 4 inch space on all sides with dry earth, covered the top with the same to the depth of four inches, and caused the door to be fitted very tightly. In short, I constructed a small cellar within a cellar. By taking advantage of the heat of the stoves above, I have secured *good ventilation* for it. I have a thermometer so inserted in the door that I can watch the inside temperature without admitting a ray of light. All the nuclei and small swarms, however small, that I have ever placed there, have come through the winter all right. All the strong swarms I have tried have been uneasy from the first, and if long retained have become diseased (dysentery), and had to be removed.

I fully believe that I could winter a pint of bees on three small combs suspended from the ceiling in the place. I say three combs, so that they could aid themselves in avoiding or seeking the slight draft of ventilation, by clustering on the middle comb or otherwise.

I have spent much time in watching temperatures in connection with this subject of wintering, but I have not the time now, at my command, to give a history of it. I will simply state that my "experimentation" has tended to confirm Mr. Quinby's theory of wintering. G. E. CORBIN, M. D.

St. Johns, Mich., Nov. 17, 1876.

On page 276, Vol. IV, you ask friend Corbin to tell you how he prepared his bees to winter on 4 full sized Gallup frames. I do not know how *he* does it but will tell you *my* way. I have 3 queen raising hives which I divide into 6 compartments; giving 4 frames 12x12 in each end compartment and 3 frames, each 12x12, in the four interior compartments. All the change for wintering is to remove the honey board and substitute a box with cloth bottom, fitted with loose cotton as an absorbent of moisture. I winter these 3 hives in my cellar, setting them out for a flight if the weather is favorable, perhaps 3 times from 1st of Dec. to 1st of March. In this way I have 18 surplus tested queens ready to make good any losses that I may have in my full stocks, and have no more trouble about safely wintering these on 3 frames than in the full sized hive. Of course it is necessary to have plenty of bees in each one, and honey. S.

Heads of Grain,

From Different Fields.

DISCARDED HIVES, WHAT TO DO WITH 'EM.

I HAVE 17 Standard hives, which I do not want—preferring Langstroth's,—and I would like to exchange with you for some of your goods. You may have them at your own price. They are well made, with two coats of white paint. There are also about 100 metal cornered frames. Each hive has division board. If you cannot take them, let me know the price of advertisement. I have two in use, and next spring shall transfer the bees into Langstroth hives. Have 29 colonies in L. and two in Standard. Knew nothing whatever about bees, until I commenced reading GLEANINGS. Got $150. from honey sales, and hope to quadruple it next year.

EDWIN FLOWMAN, Lansing, Ill. Dec. 6th, 1876.

We give the above because it points out a moral, and the moral is, be very careful about making up a lot of hives or something else, that you soon may have no use for. Thousands of dollars were probably wasted in making long hives because Gallup and Adair recommended them; and now we are once more going back to the Langstroth frame, and upper stories. It is well enough to try a few of these new things, but we should adopt them cautiously. We should be glad to advertise such goods were we not afraid it would do but little good, for the impetus in favor of comb honey, makes it probable that the hives would pay little more than the expense of shipping. Can't you take them apart friend P. and make them over.

FROM OUR GERMAN CORRESPONDENT.

DEAR GLEANINGS:—The honey harvest in Germany for the season 1876 has not been as good as the year before. Our bees wintered very well, though we are wintering our little pets only on their summer stands, and mostly without any other protection than our thick walled straw hives (see GLEANINGS No. 11 page 257, "*The latest and best hives in Germany*"). The house apiaries and our bee yards are enclosed within a high fence. We had strong colonies in the spring, and in some sections of our country the yield was at that time a good one. But rainy days and cool weather set in, and lasted till June, only allowing the bees to fly occasionally. In the swarming season (in Germany the month of June) we had nevertheless swarms in abundance, and some of our bee-keepers got by employing the extractor, some surplus honey. However, the total lack of rain in July and August was not favorable for a good honey crop. In the province of Hanover, where from the last of June till the last of September, hundreds of thousands of stocks are gathered, the honey harvest from the wide spread fields of buckwheat and heath (*Erica vulgaris*) was of no importance. In the beginning of August the bees worked daily only a couple of hours in the morning on buckwheat, and in the first week in September on the heath. Many bees were lost through the voracity of the "Bee Wolf" an insect somewhat like the wasp, which catches the bees in the air and kills them. Thus the year proved to be not so favorable as we wished.

C. J. H. GRAVENHORST.

Brunswick, Germany.

How do you catch and hold the queen when you would clip her wings?

We don't catch her. Clip her wing as she walks on the combs. With a little practice this can be done very easily with sharp slender pointed scissors.

Will a tin milk-can answer for storing honey through the season?

A tin milk can will answer every purpose. Have a gate to draw off the honey below, if you wish it handy, and when it gets candied you can readily cut it out from above.

SWARMING FEVER, HOW TO TELL IT.

How can I tell when bees have the "swarming fever" *before* the issue of a swarm?

When bees stop comb building, or work very slowly when other stocks are doing well, we presume they are contemplating swarming; also, when clustered out on the hive idling away their time, we think it best to get them "going" in some way. Will others tell P. how to tell when they are *going* to swarm.

I should like to know what improvement the Isham patent covers? His circular does not tell. I have been making similar boxes (to all appearance) for years, with tin corners, and wood corners, and with glass sunk into grooves. I don't care to purchase a "right" to make, withwithout knowing whether the Isham box is an improvement upon my own.

We can only repeat the advice we have given so many times; make any hive or honey box you please and pay no attention whatever to patents.

GUIDE COMBS, HOW TO FASTEN.

How will this do?—take a thick piece of iron (that will hold heat) having a thin straight edge 4 or 5 inches long, heat the iron hot, dip the edge into melted wax, shake off any loose drops and set it upon the middle of the *uprights* of the section boxes. Would this, with good starters, help to secure straight combs. Two such irons would be necessary—use one, while heating the other.

P.

The irons will leave wax enough to insure straight combs, but the bees will be much slower in accepting them, than if they had a piece of fdn. or natural comb. We doubt the utility of putting any guides on the *uprights*. Our new plan of fastening fdn., given in this No. will doubtless supersede all melted wax.

Will you inform me whether you manufacture any hive that receives boxes on the sides? If you do, please state the price per hive and cost of right to use same. Also whose patent.

J. B. WOODWARD.

Boston, Erie Co., N. Y., Nov. 27th, 1876.

We can arrange any of our hives for side boxes, without any additional expense; and we should as soon think of paying for a right to the air we breathe, as for the privilege of so doing. Why can our friends not understand that the day of patent hives is past and gone?

Thermometer 68° in the shade on the north side of the house. Had no rain yet, bees quiet. Bringing in a little pollen—they do that most of the winter. Bee men lying on their oars.

E. E. SHATTUCK.

Los Angeles, Cal., Nov. 21st, '76.

Please state whether the wild sun-flower is a good bee plant?

R. G. THOMPSON, Kingsville, Mo.

Like many other plants, it sometimes seems to contain nothing to attract the bees, and again will afford large crops of honey. Also in some localities it seems to afford much more honey than in others. Bear in mind that we must have acres of any plant, not little patches, to give us a bountiful honey harvest.

I have taken GLEANINGS for some months, and have written to you several times, but have never said anything about bees. The cause is just this, I can't get my bees to give 100 or 125 lbs. to the stand and then make two or three swarms by dividing. I don't use the extractor but that can't be the trouble for some of our friends get more than that amount in caps, or they say so at least. and I don't think I have any right to doubt it.

I confess that I have been a little selfish, for I raise my own queens, make the hives and caps, transfer and divide, and then winter with less expense than most of you do; havn't lost a stand for two years. I am 28 years old, have been in the bee business eight years, and have lost in all six stands. I have transferred for my neighbors 110 stands, and three of that number have died, or it is so stated. But I did as you do sometimes, refunded the money, at the same time satisfied that they had let them starve, for they had very little honey. I have 50 stands all in the L. hive. On these I use 3 five, and 4 seven lb. caps; my experience has led me to believe a strong stand will fill the seven caps as quickly as they would two or three; particularly if the weather is very warm. Have been working my bees for honey, don't let them swarm when it can be avoided, and all I can do they never average over thirty lbs. However they are all in excellent condition; I don't think the lightest will come under thirty lbs. of honey, and that principally blue thistle. Next year I propose working for increase, and seeing how the profits will compare with those of the last two years. I think they can be sold as low as $5.00 and not be losing anything. The smoker works very nicely but does not burn as long as I would like it at times. A little more information if not too much trouble. Mr. S. D. B. says he has a patent on a hive that I am much pleased with, and he wants me to buy a county right. Now if there is no patent on the hive, I don't propose to pay Mr. B. for it. Before I heard of this hive, I made a model of a hive similar to it and would have applied for a patent, but heard of this and wrote to Mr. B.

E. T. HUYETT, Wadesville, Va. Nov. 27th, 1876.

100 LBS. TO THE COLONY, HOW TO GET.

Perhaps it would be a hard matter to tell just how to get 100 lbs. of comb honey from a colony, but our readers nearly all succeed in doing it sooner or later. The season must be just right, the colony just right, and the proper amount of room and attention given, just right. We were at first inclined to think it possible only in certain localities, but as we have done it with two colonies this season, and without giving them the care they should have had either, and as one after another sends in such a report or a greater, we are inclined to think it may be done almost any where. Keep on with your work and study the subject, but do not for any thing think of buying a county right. We should feel that we had been remiss in keeping our readers posted, if we should hear of one of them investing in rights. The triangular frame is old as the hills, and you can make any thing in the shape of a bee hive you wish, without any fear of consequences.

SWARMING, HOW TO PREVENT.

How can swarming be prevented? If a person wants no farther increase, what is the best course to *prevent* it? Can it be done in frame hives? Bees in this locality have done but little this season in boxes. D. W. FLETCHER.

Lansingville, N. Y. Oct. 3d. 1876.

With the extractor, you can prevent swarming almost invariably, and with little trouble. If you wish box honey exclusively, you can during a favorable season, by giving abundant room, large starters that have been built out ready for honey the previous season, cool well shaded hives, etc., prevent first swarming in perhaps the majority of cases, and by removing all the cells but one, second swarming in nearly every case for the time being, but you will have to be prepared for many exceptions. Keep them from swarming if you can, but if you can not, try to control them after they have swarmed. Almost any one would consent to have swarms if the new and old stock would produce more honey than the old one alone, and such is very often the case. If we are not mistaken, Mr. Doolittle thinks the latter will be the rule in the majority of cases. Of course in that case we must sell each year down to the number we desire to keep.

Guided by GLEANINGS I have passed through my first bee-keeping year with enough of success to at least encourage me to persevere. This has been a fine year for honey, and had I been an expert in the beginning of the season, I could have secured an abundance of honey, for home consumption, *any how*. As it is, I have from a half dozen colonies in Feb. increased to 20 of Italians, mostly pure, with an average of 40 lbs. sealed honey in each hive. I am told by friend Standefer—a former correspondent of yours—that 5 or 10 lbs. will winter a colony here, so when I get the extractor I may get out a supply for the "babies" yet. We have a good bee country at this point, and 5 miles from where I live there is a river (Pearl) whose swamp furnishes a pasturage which is simply immense, with not a bee-keeper to reap the advantages thereof. You may ask "Why don't *you* do so?" Simply because there is no market for the honey short of the Western cities. If honey is offered at any thing like the prices you get, the price of molasses is quoted to you and that is made the standard of value, say 50 or 60c per gallon. If I could get 9 or 10c per lb. for extracted honey at wholesale I would not fear to compare balance sheets with my neighbors who are planting cotton. I use a Simplicity hive to hold 10 frames 9½x14½ inches, outside dimensions. I suspend the frame by means of *screw eyes* 1¼ inch long, which are very convenient. My hives are exactly square inside so that I can place the frames crosswise in the second story thus doing away with the awkward space between upper and lower frames.

I enclose a circular of a recently patented hive. What do you think of it? R. THOMSON.

Terry, Miss., Nov. 6th, 1876.

HONEY, HOW TO SELL AT GOOD PRICES.

We think you are certainly doing your locality an injustice friend T,, and feel sure that if you will show your neighbors some nice samples of both comb and extracted honey, you can not fail to build up a market at good prices. Your people certainly buy candies and confectionery? Well, in that case they pay from 40c to $1,00 per lb. for sweets, and why not use molasses in place of these? If your honey is all dark, it may be difficult; but we think this can not be the case, for we have had some very fine samples from your vicinity.

We shall have to keep saying over and over, have nothing to do with a hive or man, so soon as you find there are rights for sale Rest assured the one who advised them is either bad, or badly educated and *decidedly* behind the times.

I presume you have heard of the destructive tornado which passed through our village March 10th. Well, I had my bees in the cellar, and it so happened that they were on the very outskirts of that terrible storm. Shop, lumber and empty hives were scattered all about; 26 houses were destroyed, and 9 lives lost. I was in the main path of the whirlwind, was buried in the rubbish, yet was but slightly hurt.

The building that fell about me was 38x48 feet, and 17 feet to the ceiling, with timbers in its construction 12 inches square by 20 feet long. It was the grandest sight I ever saw—yes, fearfully grand—I don't want to see another one. The afternoon of the above day was quite warm; I was anxious to put my bees out, but had no time until about the last day of March—6 hives in all.

We have had a good summer for bees; I increased to 13, and realized 250 lbs. of honey. One new swarm gave 50 lbs. of comb honey—all black bees—no extracted. The tornado made me heaps of work this summer. I scarcely had time to attend bees; I took the honey boards off, put caps on ten inches deep, with lid like a trunk, and let the bees have their own way. Some filled the upper story full. Found no brood in the upper story. Expected the queen would go up and lay but was agreeably disappointed. All are box hives, with plenty of room to get up. How do you account for it?

During the summer I tried to raise artificial queens, and failed, could see brood but no eggs; tried artificial swarming and got along very well; tried to prevent swarm absconding by giving each new natural swarm a card or two of comb containing brood. I like that plan first rate—intend trying it again next summer. All lay well. A neighbor had a colony of bees weighing 50 lbs. picked up by the storm, and not a speck or trace remained to be seen.

Our main dependence for pasturage is fruit blossoms and white clover. I am cultivating what is here called wild cucumber. It lasts about a month and ends about the first of September. Bees like it remarkably well, and seem to prefer it to catnip.

Hazel Green, Wis., Dec. 14, '76. JOSEPH MASON.

FASTENING BEES IN THEIR HIVES.

Please tell me if I shall close the entrances to my bee hives. I have placed 25 in the cellar but as fast as a bee comes out it drops, falls, or is pushed off on the cellar bottom and chills to death. What harm is there in keeping them in? Can sugar syrup be fed to bees any time through the winter, in the cellar, as well or as safely as candy? ALEX WILDER.

Sandwich, Ills., Nov. 25th, 1876.

FEEDING BEES IN WINTER.

I need some information in regard to wintering bees in dry cellar. Will it do to confine them or is it better to leave entrances open? If left open many will get out on warm days and die on the cellar bottom. I wintered two stands of bees in the same cellar last winter; they did well. I had to confine them or I think they would have come out and died. They had no honey when I put them in the cellar, and I fed them syrup made of A coffee sugar. They came out stronger in the spring, than they were in the fall. Do you think it requires more honey to winter on summer stands than in a cellar? THOMAS MILLS.

Pana, Ills., Nov. 21st, 1876.

We fastened our bees in their hives with wire cloth one winter while in the bee house, and we could not discover that the result was materially different. With the Langstroth hives, we simply fastened wire cloth over the portico and had the satisfaction if nothing more, of having a clean floor; but we found so many dead bees about the wire cloth, that we concluded little if any thing was saved.

Friend Mills, if you succeeded in feeding two colonies syrup all winter while confined to their hives, you did something that would be considered difficult by almost any veteran, and we hardly think you will succeed as well next time. All seem to agree that candy may be fed at any time, yet very few have succeeded in feeding syrup in winter. Perhaps if very thick, it might cause no injury, but it is pretty sure to induce dysentery. There is almost no end to the troubles that have been reported by those who have fussed with winter feeding. Where there are but one or two colonies, it is not so much matter, but with an apiary of considerable size we know of few things more discouraging; and the owner is quite likely to wish he had never seen or heard of a bee. It has been estimated that from 5 to 10 lbs. of honey is saved by wintering in dry frost proof cellars, but those who use the chaff packing, claim but little more is consumed than in the cellar. This is a matter that we are at present testing.

You say the nails for keeping frames from swinging together have been voted a nuisance, and so they are in some respects; but how do you adjust and keep your frames at equal distances without them? Why would not a frame supported by nails driven into ends of top bar and resting on metal rabbets be cheaper and equally as good as the kind you use? I have not made this subject a hobby, but ask for information and hope you will give me the whys and wherefores as I am going to make several hundred new frames soon, and wish to adopt the best method for supporting them. W. E. FORBES.

Plainwell, Mich., Dec. 8th, 1876.

Bless you friend F., we don't *have* them at equal distances. If you used nails, you would have to use heavy clumsy pieces of wood, or the nails would never hold; and again, no one can drive nails sufficiently exact to have the frames hang straight down as frames always should do. When we take a frame out, we move those on each side a little away, that we may remove it without injury to the bees or combs, but if they were kept at fixed distances, this could not be done; besides, scarcely any two combs will be of the same thickness, or if they are at one season they will not be likely to be the next, consequently we vary them according to circumstances. It is true that the Q. closed end frames are at fixed distances, but unless they are put back in the hive every time just as they were built, one comb will be almost sure to mash into the next, bees will be killed, and the little fellows will have an immense amount of labor to go through with in cutting down and building up. Combs built on the fdn., are a great saving in this respect, for the base of the cells is flat and level; but with our best natural comb, even after the most careful pruning, we can only get them level at the surface, while the base may wave from side to side almost the entire thickness of the comb.

My bees are all in their winter quarters; each hive in a box, packed in shavings by itself. I have no fear but that they will winter safely. This is the fourth winter that I have wintered in this way; no carrying them out to fly: no making of holes through the comb for winter passages, or bothering about the combs being too full of honey; in fact, it's the least trouble of any way that you can put up bees; they are not apt to be troubled with disease, for it keeps them dry and warm and allows them to fly when it is right that they should. I claim that bees should fly two or three times during winter, to keep them from having any disease among them.

Dexter, Mich., Dec. 18, 1876. J. H. MURDOCK.

BEES, HOW MANY MAKE A SWARM.

What is the "regulation" size of a colony of bees? Possessing more bees than I have room for, and having a colony of hybrids which were not considered salable, I decided to "take them up." Accordingly I suffocated the bees with the fumes of sulphur, shook the frames, and then brushed the bees into a pail and weighed and measured them. The bees constituting this single colony measured 10 quarts and weighed 7½ lbs. G. E. CORBIN.

St. Johns, Mich., Dec. 15, 1876.

Friend C., we are seldom quarrelsome, but if we had been around when you were killing those bees, don't know but there would have been some "onpleasantness." A swarm of bees that are clear black will always sell for something in our vicinity, and it seems to us that they would have paid for all time and expense of wintering without a possibility of a doubt. A friend who is just commencing had a colony of hybrids, and the queen kept filling comb after comb with brood until so late in the fall, that his wife desired him to slice their heads off as we do drone brood, to avoid having to buy sugar for such an immense family. We were called in to advise as to what should be done to induce such a queen to stop laying, but instead of advising to kill the brood, we gave them $10 for the colony;—and next season, if she is not allowed to fill combs to her hearts content, it will be funny. We do not know that we ever saw more than 10 quarts in a colony in the fall, and we only wish you had sent them to us instead of killing the poor innocents.

IMPORTING QUEENS.

My bees were very much weakened by the cider mills last fall; I had to double many of them.

I am wintering some of the imported queens that we received from D. Tremontani, Bologna, Italy. They were 34 days on the way. Do not take this as an advertisement as I am not in the importing business. I sent my order with friend Ovelman and my brother, therefore cannot answer any inquiries more than state the condition they arrived in; 15 out of 16 came alive and in good condition. Those who are not satisfied with Mr. Dadant's imported queens should try their hand at importing and see for themselves.

I notice some parties complain of not getting the value of their money from advertising in GLEANINGS. The orders I received for queens, from what little money I spent in advertising in GLEANINGS, exceeded my expectations. J. M. C. TAYLOR.

Lewistown, Fred'k Co., Md., Dec. 19, 1876.

BEE-TREE, HOW TO GET THE BEES.

As I am a beginner you will please send me the back numbers.

I have found a bee-tree; will you please inform me how to get the bees out without killing them?

Corona, N. J., Dec. 13, 1876. G. ATKINS.

Much depends on how they are located; if in a limb, climb up and saw off the outer end, being careful to get beyond the cavity, hitch a rope to the part containing them, run it over a limb above, saw them off, let them down, and then treat them precisely as a box hive. If they are in the body of the tree, perhaps your best way will be to cut the tree and run the risk of having them all smashed up. About the time of fruit blossoms is perhaps safest, for they usually are lightest in honey at such a time. As you will be likely to have many bees outside at the time, it may be well to leave the hive or log as near their old location as possible a few days, to catch the returning bees. Be sure to provide ample means for having plenty of smoke ready as soon as it may be needed. An enthusiastic friend—a novice—lately was stung most unmercifully, while high up amid the limbs of a monarch of the forest. If we remember, he found more hard work than poetry.

HONEY, HOW NOT TO GET IT.

My bees filled 2 boxes, weight about 30 lbs. I supposed that was doing well as I sold it for 20c. per pound. I did not put on any more but found in about 6 caps 75 lbs. gross of surplus honey.

The above friend forgot to give his name, but he gives an excellent example of the loss those sustain who neglect to give their bees a chance. By the way, we have quite a little bundle of letters that have been sent us with money, without any address or signature. What shall we do with them?

STIMULATIVE FEEDING, DETRIMENTAL.

Had 46 swarms May 1st, '76; lost 2 in the cellar and found 2 queenless. Had to unite them with others. This was our loss for last winter and spring; one year ago if you recollect, I lost 18 swarms by early stimulating, as I think. I took 4000 lbs. surplus, most of it extracted. I tried the section boxes and like them but like the extractor better. I uso two story hives with frames about the size of Quinby's; don't think I want any smaller frame. Have sold most of my honey for 12½ cts., keg also included.

Now with regard to those dark Italians; I have some reared from Dadant's queens, and some from a queen purchased of Langstroth, but I fail to see wherein the dark ones are any better than the light ones unless it is in "fighting qualities." Both are far ahead of the blacks in my judgement. JAS. SCOTT.

Epworth, Iowa, Dec. 21st, 1876.

My bees did well the past season. From 30 stocks I took 2000 lbs. beautiful honey. It is now nearly all sold at 25 cts. per lb. I thought this *big work* until I saw the reports of friends Muth and Hill. I am not so jubilant now, but console myself by thinking they are older bee-keepers than I and perhaps had better bees and pasture. I'll go for them next time. H. C. HERSPERGER.

Keene, Ky., Dec. 19th, 1876.

Took from 20 colonies the past season 1200 lbs. honey, mostly extracted. The yield from white clover and basswood rather light with a good run on fall flowers.

Warsaw, N. Y., Dec. 21st, '76. DAVID HALL.

I do not know whether I have ever written you since I rec'd my extractor. I am well pleased with it. It paid me between 400 and 500 lbs. of honey and I think that paying well. M. J. NELSON.

Ligonier, Ind., Dec. 19th, 1876.

One year ago I began the winter with 82 swarms, two of which I left on their summer stands packed with chaff in Quinby hives; they wintered better than those in the bee house. One of them cast a swarm eight days in advance of any of the rest and the other one was the third to swarm. I lost 14 swarms; 6 of them starved before being taken out in the spring, the other eight dwindled down and were robbed by others, there being no one to look after them, I being sick from the first of May until the first of July. Now for the result. I increased them to 101 by natural swarming but reduced them in the fall to 90, 11 of which are on their summer stands in Quinby hives packed in chaff. Five of these have chaff bottom boards; 79 are in the bee house and that is not all, I got 250 lbs. of dark comb honey. How is that for low? I need not tell you that it was the poorest season I ever saw; fruit blossoms and white clover were failures on account of wet weather. Basswood which is our main dependance for surplus, did not blossom and the fall was cold and wet. Consequently our bees are not in the best condition for winter but we hope for a better season next year. Wm. H. Tenant.

P. S.—Please don't put me in "Blasted Hopes" this time.

Eureka, Wis.

Less than 5 lbs. of honey to the hive, and poor at that, we think justly entitles you to the department mentioned; but as you have given us a good report in favor of the chaff, we think we will try you once more friend T.

I received the two colonies of Italians sent me; all appear to be alive and in good condition. They are the only bees in this country, and if they do well there are a great many who stand ready and very desirous of trying them also. Where the bees are, it is so warm they are out from 9 o'clock to 4 each day, all over the country. But as every class of vegetation is dead, I cannot see how they can gather anything to eat. M. W. Mills, Cimarron, N. M., Dec. 16, '76.

Is not that pretty well for shipping bees all the way to New Mexico? The credit belongs to friend Blakeslee we presume for he prepared them. Old brood combs were used, and those with but a moderate amount of honey in them.

It is quite encouraging for me, as a beginner, to hear the reports from different states, of the successful bee-keepers; it just braces me right up. I have 16 stands of bees; I transferred 8 from old box hives last spring, and have 6 Italianized. Now which is the cheapest and best plan to Italianize the remainder? Would it be safe to remove the old queens next spring and place queen cells in their stead? And would the young queens become fertile before black drones make their appearance.

I have about 20 lbs of wax of good quality; had I better send the wax for fdn. or can you get me a pure article? L. P. Kline, Mordansville, Pa., Dec. 14, '76.

Killing your queens in the spring and giving them queen cells might be safe, but it would be a very wasteful way, for you would stop all brood rearing for at least two or three weeks. You *might* get Italian drones before the common ones, and by such a course get the queens purely fertilized; but you would lose at least one-half your crop of honey. It will be much better to wait until swarming time, and then rear your queens in a nucleus or on two frames in one side of the hive. When your queen is laying, you can kill the old one and cage the young one 48 hours as usual. For full particulars see Italianizing, page 137, Vol. IV. You probably could not get your 20 lbs. of wax to us for less than 5c per lb.; therefore we think you had better sell it at home if you can get within 5c of what we pay, and buy the fdn. of us. We have a large stock now, of very nice pure wax.

What do you use for bending the metal corners before putting them on the frames?

The corners are folded and finished in a very ingenious and expensive piece of automatic machinery. It is entirely out of the question, to think of doing accurate work by hand.

Have you ever known the Italians to collect honey from the *large headed* red clover? L. Heine, Smithville, N. Y.

Our Italians work on all the red clover we have in this locality, and we see no difference in favor of either the small or the large.

THE OLD WAY AND THE NEW.

A Mr. Thomas, living about 4 or 5 miles from Toledo, Ohio, tells me that he generally keeps from 40 to 60 colonies, and sets the hives on the ground, first laying down a board. He does nothing in the fall to protect them, lets the grass grow around them, uses no stands, hay, chaff, or quilts, and scarcely ever loses a colony. He never smokes his bees, but turns up his hives in the spring and cuts out ⅓ to ¼ of the comb and honey, and sets the hive in place again scarcely ever getting one sting. He has box hives but is now thinking of getting movable frames.

Now, sir, why is it that with his bees in the grass, scarcely any attention given, with natural swarming altogether, cutting out the comb and honey, &c., his bees winter well, come out finely in the spring, and give fine crops of comb honey?—and still more amazing, he scarcely ever gets a sting?

Geo. Grimm, of Jefferson, Wis., says that his bees, being in a better locality than his mother's, have done better than hers; they have had a poor season. He has over 150 colonies; he keeps them in dry warm cellars, gives plenty of ventilation, and keeps a barrel of water in the center which is changed every two weeks. He piles his bees 5 to 6 high, has the whole entrance open, and slides the honey board forward giving ¼ inch opening behind, causing a draft through the whole hive; finds it especially necessary to give draft thus; he has always succeeded. He approves of making a hole through the comb for winter passage but does not practice it himself. His uncle Christopher does, but has no better success in wintering than himself.

See how differently these two men proceed, and both of them very successful. A. Fahnestock.

Toledo, Ohio, Dec. 18, 1876.

Mr. Thomas is by no means the only one who succeeds in wintering his bees and getting small crops of honey in an unsalable state. But were you to inquire into the matter we think you would find the percentage of loss greater than stated. Also, that the average yield per colony, is very insignificant compared with your own, and those who read, and *practice* what they read. There is occasionally a bee-keeper near us who has in the same way escaped almost entirely the malady of the past few years, but much the greater part of the box hive bee-keepers, have gone down to very few stocks, or oftener, none at all. Adam Grimm made a fortune from his bees, while Mr. Thomas has probably made little more honey from his than to supply his family, even if he *has* escaped loss in wintering. At the same time we should not lose sight of the fact that bees many times do better in old rickety hives out in the grass, than do those so carefully fussed with, so far as wintering is concerned. We should keep a keen lookout for facts, but avoid going to unwarrantable extremes either way.

I experimented with 10 lbs of fdn.; except for starters I shall for the future wait and see those of more knowledge and skill profit by them. Mr. Hoge, *alias* Long, told me a few days since *he* should be in the market with a vegetable wax foundation at 30 or 35c. per pound that would surpass anything yet made.

Have you noticed that the fdn. with the arch of the cell at the top, does not bulge as it does when a flat side of the cell is uppermost.

Can you not get Capt. Hetherington to tell us how he gets his combs built so true in his glass boxes?

Above all other boxes I have, and I have a *lot*, too, so far, I prefer the G. T. Wheeler. Shall use Isham's largely this season. Extracted honey will take the lead; it is not known, is the reason why there is not a greater demand for it. Why not put up in *tin* packages of one and two pounds? Glass is so high; *the price tells*, and everybody tells the price.

C. J. QUINBY, White Plains, N. Y., Dec. 9, '76.

If you use the fdn. for starters, you will probably use it for all purposes, for scarcely anyone disputes its value for getting all worker comb.

FDN., AND BULGING; DOES THE POSITION OF THE CELLS AFFECT IT?

We never before thought of the idea of the position of the cells making a difference, but since you mention it, we find that in all our experiments the cells have been in the position you recommend. In fact, we cannot make full sheets for the L. frame to go in otherwise. If Mr. Long can succeed with Ceresin, or some composition of it, we shall rejoice with him; but in our correspondence with the dealers in Ceresin, they have mentioned making it harder, to prevent bulging. Now this will not answer, for if harder than wax the bees will not be able to work it rapidly, and we shall lose more time than we gain by the whole fdn.

WAX, PURE; NO SUBSTITUTE.

We think it will be very difficult to find a substance that will soften by heat, and yet retain its tenacity, as does the real wax made by the bees. The fdn. we make, and that we have found so successful, is made of pure wax, and our patrons may rest assured that no sort of experimenting shall be made on any that is sent out to them. We presume Capt. H. used the tin separators, for the sections that were to be glassed.

EXTRACTED HONEY IN TIN CANS.

Extracted honey is already offered for sale in 1 lb. tins; but the trouble is that the buyer cannot *see* the honey, and the tin cans are as expensive as cheap glass. The tin has the advantage of never becoming leaky.

Send "Gleanings" another year; my better half thinks we cannot do without it, and of course your humble servant entertains the same opinion; the only claim we file against it is, that it does not come often enough. It ought to be a weekly;—but human nature is never satisfied, hence we must be content. Now I will tell you some of the things that I have been guilty of this season. In the first place, I worked about 10 hives for honey alone, and took out about 900 lbs., all extracted, which nearly all sold for 20c. per pound. I worked a good many bees on shares, raised quite a number of queens, and bought three warranted queens from J. Oatman & Co., and two from H. Alley, all of which give satisfaction. September found me with 24 colonies, I sold 20 of them; taking all together I have cleared about $300. REV. W. H. KEER.

Waynetown, Ind., Dec. 11, 1876.

The best thing I have found for stings when they are liable to swell, (and that is very seldom with me), is to take a very sharp-pointed pocket knife and lance the skin in the exact place where the sting entered, fully as deep or even deeper; this will allow the poison to run out instead of going in, so that the swelling will not amount to much.

Propolis taken from the hive while warm, or made soft by the fire, is a splendid thing to heal up sores of any kind. It will save you from buying preparations of the Druggist or Doctor, such as salve, sticking plaster, and the like.

I have been working a little for you as well as myself; I have got three of my friends to subscribe for GLEANINGS; two of which have bees, and one wishes to read it for pastime. M. WYRICK.

Cascade, Dubuque, Co., Iowa.

PROPOLIS VS. STICKING PLASTER.

But we fear we had rather take the pain of the sting, friend W., than to have our hands thus gouged up; perhaps that propolis salve might make it all right, for we can abundantly certify in regard to its "stickative" properties—although we know nothing of its medical virtues.

That is a rare compliment you pay us—that GLEANINGS is read for "pastime" by one who is not a bee-keeper.

I have a house apiary too, the walls are only one inch thick, of pine lumber jointed and grooved. My long Standard hives are ranged on each side, with 5 inches of chaff beneath them. They are back from the walls 5 inches, with a 5 inch board placed so as to come within two inches of the alighting boards of the hives. Small pieces of boards 5 inches wide standing on end, support this board and separate the entrances. Then 2 inch holes are bored through the wall for an entrance to each hive level with the alighting boards. I have packed chaff on all sides, ends, and on the top a foot thick. Now what do you think of the plan? It is the same principle as chaff packing in boxes, and I think much handier and better, and not so expensive. Twenty inches space are allowed for each hive, and my house will hold 36 hives, with two tiers one above the other, on each side facing east and west. If this is a success I shall build a larger house next year on the same principle. I don't see why it should be frost proof, with the hives packed in chaff, especially when bees will winter out doors splendidly, packed with chaff in boxes. A frost proof house is quite expensive, but a house like this will not cost as much as to make boxes for all the hives, or even the "hives for out door wintering" that you have described in GLEANINGS.

ANSON MINOR, Low Banks, Ont. Can. Dec. 6th, 1876.

Very likely you are right, friend M., but it is a matter on which we need experiment. We have for some time thought the hives might be arranged as in a house apiary, entirely without any house—or at least with a very open one, securing all the advantages of having the apiary in small compass, and facilitating the chaff packing. Unless a free current of air can be secured, especially in the spring, we are inclined to think the bees worse off in the house than out doors.

Our Homes.

"EXCEPT YE BECOME AS LITTLE CHILDREN—"

A MOTHER one morning gave her two little ones books and toys to amuse them while she went upstairs to attend to something. A half hour passed quietly away, and then one of the little ones went to the foot of the stairs, and in a timid voice called out, "Mama, are you there?"

"Yes, darling."

"All right," said the little one, and went on with her play. By and by the question was repeated, "Mama are you there?"

"Yes, darling."

"All right," said the child again, and once more went on with her play. And this is just tho way we should feel towards Jesus. He has gone upstairs, to the right hand of God, to attend to some things for us. He has left us down in this lower room of this world to be occupied here for a while. But to keep us from being worried by fear or care, He speaks to us from His word, as that mother spoke to her little ones. He says to us, "Fear not; I am with thee. I will never leave thee, nor forsake thee." "Jehova-Jireh, the Lord will provide."

And so we see how certain it is that God does provide relief in trouble for those who love and serve him.—*Sunday School World.*—Sept., 1876.

Are there those among our readers who would consider such a faith child-like? and bordering on superstition to suppose that some unseen power for good were hovering over us, and ready to strengthen us in all good impulses and resolutions? Perhaps I can so explain it as not to seem so very visionary after all. But a few months ago, I was struggling in vain, to free myself from habits that I could but admit in my better moments were fast making me worse instead of better; were making me selfish, overbearing, sullen, impatient, and unhappy; and were slowly but surely, chasing away all vestige of the pleasant sunshiny smile that seemed so peculiarly to belong to me in my childhood, and that had many times enabled me to cheer up others, when amid trials and troubles. Perhaps a little prosperity had something to do with this, and it may be that I was getting too great an idea of my own importance; an idea that I could not be expected to waste my valuable time in fussing with everybody's wants and wishes, all for nothing. What do you think of such an individual, dear friends, when you come across them? Well, I used to think just so of myself, when in my better moods, I got a fair view of the "chap" that usually, selfishness prevented my seeing at all.

"Look here old fellow! Do you see what a fool you are making of yourself? Why can you not be decent?" And in sober moments when no temptation was near, I made huge resolves that I would be a perfect model of all that was good and lovable, but perhaps before one hour had passed I would find that all these resolutions had been swept away like cobwebs across the path, by some sudden temptation, and in despair I drifted on until some view of better things again awakened anew the desire to be better myself, and to help make the world better.

Now our friends in our prayer meetings would explain the matter very readily by saying that I failed, because I relied on my own strength alone; but to others, this kind of reasoning does not seem very logical; to the latter, I would speak, for I feel that every thing about the Christian religion, has a clear and lucid explanation. My attempts were without any very clear idea of the change that would have to be made to bring a man of middle age back to the innocency of childhood: I fear that I had but a small idea of the amount of sacrifice needed, and of the regular breaking up one has to go through with to "become a new being." An intemperate man may break away from his cup all at once, and he may remain firm all the rest of his life, but I never heard of a human being who suddenly broke away from *all* his bad habits and became a different man, unless it was by taking that beaten track, the Bible as his guide.

Did you ever feel that your door yard needed slicking up, and that you really must "get at it," but after you started, you found each individual thing was not so very bad after all, and perhaps after fussing with it a little, you finally left it in almost the same condition as before? As days pass along, you lament that it is such a disagreeable and untidy place, but you have tried several times to better it, and it did no good. A kind friend comes along, and shows you a picture of a yard with a beautiful grassy lawn, nice trees and every thing in such perfect order, that you exclaim, "Oh that I *could* have such an one! what would I give." Suppose he tells you that you can have just that exactly, and without costing you any money at all, if you will just work. What is to hinder? Suppose he tells you that he has plenty of time, and would really like to help you do it. Under his direction and kind advice, you take off your coat and go to work, and are told that all old things must be cleared away, even to the very grass under your feet. As the old crooked and ungainly trees are rooted out, and as one thing after another that you felt you could not spare are cleared away, you may feel now and then that it is a sore trial, but after you have fully decided on it, and as the new begins to come out in its purity and beauty, you can then indeed begin to feel "My yoke it is easy, and my burden it is light."

Now is all this peace and beauty going to remain thus without further effort on the part of the owner? By no means, for just as surely as you sit down with folded hands, just so surely will it all run to waste, and the old order of things will come back. Is it not better that it is so? We are only contented when we are busy, and happiest when we have something to accomplish. Unless we are pushing ahead in some direction, we are very sure to be slipping back. Our yard—or garden perhaps we might call it—is all in nice and beautiful order; old offensive things are all cleared away—all forgiven—and we are left in charge, and expected to keep all neat and tidy. Alas, we are but human, and with all this fresh new start, perhaps we would never amount to any thing at all, were not this same kind friend still near, and ready to advise or direct the work, for each day. Furthermore, He never tires, never becomes discouraged at our repeated failures, if we only keep striving, and in His loving kindness, He not only freely forgives the past over and over again, but "seventy times seven" if need be.

When one arrives at a point where he begins to think the world—including himself—is hollow, deceitful and unsatisfactory, when he begins to feel a longing for something better and purer, does he not begin to wonder for what purpose he was created, and to turn instinctively to the Being who made him for light and help? I do not pretend to understand the different phases of the human mind, nor can I account for the way in which we seem drawn toward every thing that is mild and gentle, when we begin to long for a purer life and purer motives. I only know that for months life loomed up before me as a failure. There was no mistaking; I was surely sinking back, instead of going forward, and struggle as I might, I only found myself still more helpless. Worst of all, I was losing my energy, and growing listless; I cared less and less every day, about paining or wounding others, and I knew in my inmost soul that when I was really under way in the downward path, my course would be quickly run. Weak and trembling, discouraged and doubting, I alone by myself offered up one simple earnest *honest* prayer to the Being who made me, who cared for me (if such there was), for help and guidance. Like the voice of conscience when we are doing what we know is wrong, only ten times louder and stronger, the answer came at once clear and distinct.

"Obey, consent to be led as a little child and your work shall be shown you, day by day."

"But I am weak, I shall fail miserably as I have heretofore," and as the duties that I might be called upon to perform, and the things that I might have to give up crossed my mental vision, I could only utter aloud, "I can not! Oh I can not."

Then came the help and encouragement that I would tell you of, for though no living soul was near, I seemed in companionship of kind and loving friends. Gentle accents seemed to say, "You shall have strength given you that you know not of, and when you feel that you are falling, a strong arm shall uphold you. Only give up all, be humble, and obey."

Nearly two years have passed since that struggle and yielding up, and never in the path of duty, has that promise failed me; ofttimes, like the little one at the stairway, have I been compelled to call,

"Dear Saviour, are you still near?"

Perhaps it is memory, that replies, "Lo, I am with you always, even to the ends of the earth."

At times, trials come from unexpected directions, and before I am aware of it, hard feelings rise up, and I become conscious that something is wrong, yet hardly know where duty lies.

"My Father! I am stumbling; I do wish to do right, I am trying to obey. Wilt thou guide and direct, and give me strength?"

Do you wonder that peace, calmness and a clearer perception of right and wrong come at such a time?

Through almost all my life, has run one besetting sin; one right hand sin perhaps it might almost be called, and as surely as temptation came in this direction, almost so sure was I to fall. I might have been strong almost every where else, but alas for this one weakness that threatened to cripple me for life. Now when this change came that I have mentioned, I at first feared this one weakness more than all others together, but strange to tell, in that respect at least, I have been almost another person, for all taste that way is gone as effectually as if it never existed. After that one simple prayer, an almost impenetrable wall seems to have been raised up in that one direction. Those who have studied the workings of the human soul, may perhaps say it was the result of a powerful revulsion and sudden change of purpose and feeling. This I grant, but who but the divine author of the mind and soul, has the power to thus create in us new and better purposes? And will he not in answer to every humble call, show us that we have not been turned adrift helpless and alone, but that a loving and kind solicitude for our welfare, follows us through life?

Six years ago a young mason was laying brick for this very building in which I now write; he was an excellent mechanic, but perhaps the most blasphemous fellow I ever met, in fact in his ordinary conversation he would utter mingled obscenity and profanity, that might make one's blood run cold. I gazed at him in astonishment, inquired about him, but was told he probably would never do any better. A few months after, some members of the Young Mens' Christian Association in some unaccountable way, made an appeal that stirred his better nature and he was converted. He was at once a changed man. I knew nothing of it until I met him in his own church, a pleasant, quiet, kind, earnest Christian, his wife with him, and instead of being with a class of low lived roughs, he now went to church every evening. Well dressed, intelligent looking, humble and respectful, well might his wife be proud of him. Can it be possible for a human being to become so changed? was my thought as I took him by the hand, and told him how glad I was to see him among them. He told me all his old habits had been stripped off as if they had been a garment. And as we became better acquainted he told me of some of his struggles to keep in the right path. One I will relate. He had been much addicted to the use of tobacco, but thinking it wrong, he had broken off this with other bad habits, yet the old taste haunted him, and would give him no peace. After months of struggling, even his wife plead with him to get some, and be tormented as he had been no more; and he finally went back to its use, feeling as he told me, that he could hardly bear the thought of undertaking to go through such an ordeal again; he felt that although free in other respects, he must perhaps be a slave to this fault all the rest of his life. Time passed, and we had a winter that gave masons very little work, in fact he finally was obliged to cease paying his church dues, because he had no money. All this time he was paying for the weed an amount that would have done nicely for the weekly contribution box. Conscience was at work, and he finally alone in his closet, laid the matter all before that Saviour, and faithfully promised that if strength were given him to fight this battle, he would put every copper of the tobacco money into the contribution box, What do you suppose was the result? From that moment, all taste for tobacco left him, and he told me months afterward, that not once had he felt the least desire for the stimulus that he once thought he should never be able to get along without. Another neighbor has had the taste for strong drink taken entirely away from him in a similar way, and instances of the like could be collected from almost every neighborhood I presume without number. But a few months ago I should have smiled at all this as a delusion, but dear friends are not delusions that bring such results a most glorious thing? If unbelief or scepticism raised men up, freed them from bad habits, and made them better citizens, then might we recommend it, but who ever heard of such a thing? If a simple and child-like faith in the Bible and all of God's promises brings all these things, who would say a word against it? Whatever may be your own belief dear reader, you certainly will say, God speed the work that makes the world purer and better, will you not?

Are there any who are inclined to call these small matters? Last summer a safe was robbed of $16.000 in the city of Akron, just 20 miles east of us. The clerk was taken up for it, but after a long lawsuit, was discharged as an innocent man; his character had always been good, and he came from a very respectable family where he had had careful christain training. After he was set at liberty, he went west, and finally for some reason, attended Moody's and Sankey's meetings in Chicago. A few days ago, he sought an interview and confessed to Moody that he really did take the $16.000 and asked what he must do to be saved. The only course was pointed out to him, and he has just come back to his home, confessed his crime, and given himself up. But by our laws he is pronounced an innocent man, and nothing could be done with him for the theft. He returned all the money so far as he could, and then at his own request was sent to pennitentiary for perjury. He is sentenced to 3 years imprisonment, but with the feeling in his heart that God has forgiven him all, he is doubtless a happier man, than ever before, with all the freedom the world can give. Did you ever hear of a person who had been guilty of such crime turning suddenly to an honest life, even though it involved years of imprisonment, under any other influence? Did any one ever hear of scepticism or atheism making a man better or more honest? I am sure that every one who reads this will say without hesitation, "Give us the religion that makes men honest; we do not care where it comes from, nor who proclaims it, (we do not care for all the arguments and theories that were ever invented), if it only induces mankind to be truthful, and to do as they would be done by, there is no such thing as too much of it."

State prisons and courts of law, are very good to make people honest but when we can take away the disposition to want money or property that belongs to some one else, are we not "stepping heavenward?"

Notes and Queries.

IS the mustard for bees the common white? How much seed per acre is necessary? *All kinds yield honey. Should think 1 lb. would sow an acre.* How much borage seed sows an acre? Should it be sown broadcast or in drills? and what is the best time to sow? *Sow 2 to 3 lbs. per acre in May or June, either broadcast or in drills.* How about sweet clover? *About the same as mustard.* If you had 40 stands of black bees all in movable comb hives, how would you Italianize them so as to make most of them for the least money the coming season? *If you have work that will pay you $2.00 per day, buy 40, dollar queens. If you have nothing else to do, buy an imported queen, and rear the queens as we have advised on another page.*

T. C. STANLEY, Jeffersonville, Wis.

Can you furnish me section frames of any dimensions? *Yes sir ('ee)!* I shall want next season (Providence permitting) from 1000 to 3000. What kind of wood are they made of? *Pine.* I have an orchard of five acres. At what season of the year should I sow it to alsike clover? Should I prepare the ground first or could I sow it on a light sod and trust to its crowding out the orchard grass? The limbs of the trees are so low I cannot plow. The sod is so light, ordinary red clover will work its way through. *Alsike is to be treated precisely as red clover.* Is Horse mint a honey producing plant? *Yes, it is the same thing as wild bergamot. See page 6.* How many pounds of alsike clover seed does it take to sow an acre? *About 4.* I should like to know the comparitive merits of open and closed top bars. I am using the latter. *See back volumes, and if not satisfied try a few hives each way.*

W. P. HOGARTY.

Quindaro, Kansas, Dec. 6th, 1876.

Can you inform me of the ordinary temperature of the brood nest?—especially in the spring when they are rearing brood rapidly? *It is a very nice point to determine accurately; about 100° as nearly as we have been able to get at it.*

H. L. LANKTON.

Hartford, Conn.

If frames are 1¾ wide, how many square inches of surface will make one pound of honey? *If you use separators so that the comb is only about 1¼ in thickness, about 16 square inches. If without separators, so the comb will be about 1½ thick, perhaps 12 square in. to the pound.*

C. WILKINS, Ott, Coos Co., Oregon.

When is the best time to send for Italian Queens? *Summer.* Are they better than our common black bees for honey? *As surely as horses are better than oxen.* When is the best time to drive bees from old stands to new ones? *Summer.* Should bee stands set in the heat of the sun during summer months? *Not unless they are in chaff hives or others that protect them.* Should bees be allowed to come out during warm days in winter? *We would let them come out whenever they wish. In the chaff hive they never come out unless it is very warm.*

W. G. CRAIG.

Clearmont, Mo., Dec. 8, 1876.

I would like to have some of our best bee-keepers try the following experiment: Seal winter stores for your bees yourself if necessary; fill your combs full; have sheet wax very thin, and have all warm; attach wax to top bar and sides, then with a proper instrument press the wax to the comb; if it is at the right temperature it can be placed down all right; then serve the other side the same way.

I think stores sealed in this way will be just as good for wintering as if sealed by the bees themselves. Four combs will hold enough to winter a stock. White sugar should be used. With proper implements it can be done very fast, and with combs containing pollen also. And why not manufacture pollen, put it in the cells, and seal it ready for use in the spring, if not needed in winter? I am determined not to stop where we are, but move with the times. D. A. Jones, Beeton, Can.

[Go on friend J.; it did occur to us to say the bees would work cheaper than anybody we could employ hereabouts, but perhaps we are mistaken: and we shall not say anything discouraging, even if we hear of your flying about among the clover heads with a tin pail.]

I find on examination that No. 7, Vol. I, is so damaged that it will look bad in my book. It contained a description of hive that I use, hence has been handled a great deal. I have been so successful, people think it is on account of my hive and every one going into the business wants the dimensions of it to work by, consequently they have worn the paper out. WM. C. GRIER.

Lamar, Mo., Nov. 20th, 1876.

[We were thinking over the many hives we have described in GLEANINGS, a few days ago, and regretting that we had at different times thought each new one, the long sought desideratum. The one our friend refers to, is the Simplicity, made to hold American frames. If they have all done good in a similar way, we shall have cause to rejoice, after all.]

From Mr. S. J. Markle's report, page 293, I think southern Kansas would be a good place for the business. But he informs me that the printer made a mistake in the amount of sugar fed them: it should have been 8 lbs. instead of 88, though he said it made no difference for the remainder of the report might look a little extravagant, but that it was Gospel truth; and no one who has known him as long and well as I have will doubt it.

My report is hardly worth sending in; I began the season with 12 stands, and increased to 35, all strong and very heavy with stores, and took 750 lbs. extracted honey.

We have had a few very cold days; on the 9th the mercury went down to 19° below zero. A. MCMAINS.

Chariton, Iowa, Dec. 11th, 1876.

Report for the year; increased from 7 to 20, and took 600 lbs. extracted honey.

WM. MILLS, Seville, Ohio, Dec. 27th, 1876.

WINTER ENTRANCE, HILLS.

HAS HAD NO LOSSES IN THE PAST SEVEN YEARS.

WE were quite taken up with the idea given in Dec. No., of an auger hole for winter entrance in the front of the hive, and have received further in regard to it as follows:

I do not consider it necessary to clean the dead bees from the bottom of the hive unless we have protracted cold weather. If we have a warm day occasionally the bees will themselves carry them up and out. I used to follow Langstroth's directions and clear them out once a month, but of late I leave them until the middle of February; the queens usually commence laying here about that time. I do not lift the frames to clear the hives for the entrance is the whole width. I use a ¼ inch iron rod, flattened and made square at the end, to form a scraper about 4 inches long. I scrape the dead bees and other litter out, close them up again, and leave them until the weather becomes warm and the combs crowded with bees; then open below. They will put out the dead bees at the hole when they would not do it if the ventilation were at the bottom, as they appear to have much better command of the bottom of the hive when all is close but the hole above, and will often put out dead bees when they don't fly. As a rule I think the bees would carry out all their dead, but think it better after the hard frost of winter is past to clean them out and save them the trouble.

I would not advise anyone to stop up the bottom of the hive in cold weather, for in that case the bees know nothing of the entrance being changed and might worry themselves to death in trying to get out without finding the new entrance. It should be done in warm weather, that the bees may get used to the change before winter. I know a man who tried it in cold weather; he stopped up the front of the hive and bored a hole through the side. Of course the bees never found it, and his conclusion was that they smothered, J. S. HILL.

Mt. Healthy, Hamilton Co., O., Dec. 15, 1876.

We have tried the plan of getting the bees out with a scraper, but decidedly object to annoying them as much as the operation has always seemed to ours. With the Simplicity hives it is a very easy matter to raise the hive, and clean out all filth, and if you have an attendant with a broom you can lift the hives while the bottoms are swept in a twinkling. If these hives are prepared for winter with a chaff cushion on each side, and a thick one above, we really believe they would carry every dead bee out at the auger hole nearly as soon as they died. Our neighbor Blakeslee, lets his bees do the whole of it themselves, saying they can do it cheaper than he can. With the S. hives, it will be a very simple matter to close the lower entranc, by sliding the hive back on the bottom board, and the hole in front, will be all the entrance they need until they really commence getting honey.

A RARE CHANCE FOR AN EXPERT APIARIST.

I have 70 colonies in cellar in condition to winter, I think. All blacks except one Italian. Would like to Italianize them next season. Will give anyone that understands the business one-half of the increase to help me Italianize and take care of them next season. I will pay half the expense. My hives are mostly Langstroth. I make my own hives, am a cabinet maker, but live on a farm near timber, plenty of basswood, white clover, &c. I am selling honey at 35c. per pound; extracted and box all same price. W. N. TINKLEPAUGH,
1d Preston, Fillmore Co., Minn.

CHEAP HIVES.

Material for standard Langstroth Hives. Portico, 10 frames, beveled edge, bottom board and caps.

In lots of 5 each	$1 00
" " 10 "	90
" " 20 "	85
" " 30 or over	80
Sample Hive	1 50

Two story hive and 21 frames furnished low. Material for honey boxes cheap. Address
J. OATMAN & CO., Dundee, Kane Co., Ill.
Write for circular. 1-5d

CASH FOR BEES-WAX.

We are paying 30 cents per pound for yellow beeswax, in lots of from 50 to 5,000 or more pounds, delivered at Syracuse, or 31 cents, if exchanged for white wax. If you have any wax on hand, and can deliver it at the above price, please do so, and we will send you our check on receipt of the same.
ECKERMAN & WILL.
7-7-77 Wax-bleachers, Syracuse, N. Y.

ADVERTISEMENTS.

Advertisements will be received at the rate of ten cents per line, Nonpareil space, each insertion, cash in advance: and we require that every Advertiser satisfies us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 10c. each insertion, or $1.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 10c. each insertion, or $1.00 per year.

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, safe delivery, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested queens. furnished on application to any of the parties. Names with *, use and imported queen moth-
If wanted by mail, send 10c. extra.

*G. W. Dean, River Styx. Medina Co., O.	
*J. Oatman & Co., Dundee. Ill.	1-12d
*E. W. Hale, Wirt, C. H., West Va.	6-6
*J. M. C. Taylor, Lewiston, Fred. Co., Md.	1tf
*Dr. J. P. H. Brown, Augusta, Ga.	9tf
J. M. C. Taylor. Lewistown, Fred'k Co., Md.	1-6
Albert Potter, Eureka, Wis.	1-12

Bees for Sale.

We, whose names appear below, agree to furnish bees as follows: A two frame nucleus, full of brood and bees, with tested queen. for $6.00, or the same with $1.00 queen for $4.00. Where five are ordered at one time, $1.00 less on each nucleus; * names use only imported mothers.

*J. M. C. Taylor, Lewiston, Fred. Co., Md.	7-1

Hive Manufacturers.

A. I. Root, Medina, Ohio.	
M. S. West, Pontiac, Mich.	6-5
Geo. W. Simmons, Newark, Del.	1-12

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our ninth edition circular found in Feb. No., Vol. IV., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required*.

	Bees, full colony amply provided for winter, in our new two story, chaff hive (described Nov. and Dec.No's .. '76), tested queen from imported mother, safe arrival guaranteed..(Lawn hive $1 more.)..	$15 00
	The same in a 1 story Simplicity hive...	13 00
	The same in old style L. hive with portico, etc......	12 00
	The same with hybrid queen........	10,00
	The same not provisioned for winter........	7,00

We think we can prepare bees for shipping safely any month in the year; when we fail in so doing, we will give due notice.

0	Binder, Emerson's, for GLEANINGS..........	50, 60, 75
	Balances, spring, for suspended hive (60 lbs)......	8,00
10	Blocks, iron, for frame making........	15
	Barrels for honey, $2,50 ; waxed and painted....	$4,00
	Buzz-saw, foot-power, *complete*; circular with cuts free on application. Two saws and two gauges included.	$35 00
0	Buzz-saws. extra, 6 in. 1,50; 7 in.. 1.75; 8 inch..	2 00
	Buzz saw mandrel and boxes complete for 6 inch saws $5,00; The same for 7 and 8 inch saws...	8 00
	Comb Foundation Machines complete.....$30 to	125 00
30	Chaff cushions for wintering........	30
25	Chaff cushion division boards........	20
	Half price without the chaff, and postage 5 and 9c.	
20	Candy for bees, can be fed at any season, per lb.	17
20	Corners, metal. per hundred........	1 00
25	" " top only........	1 25
20	" " bottom, per hundred.... ...	75

On 1,000 or more a discount of 10 per cent. will be made, and on 10,000 25 per cent. The latter will be given to those who advertise metal cornered frames.

60	Each....	30
9	The same all ready for the chaff	15

As we purchase our cloth at wholesale, this is perhaps as cheap as you can make them.

	Combs, empty worker in metal cornered L. frames.	50
10	Clasps for transferring, package of 100....	25
0	Cards, queen registering, per doz.....	10
2	Cages "	10
2	Cheese cloth, for strainers, per yard....	10
12	Duck, for feeding and covering the frames—bees do not bite it—per yd. (29 inches wide).....	20
	Extractors.... .... $8 50 to	10 00
	" inside and gearing	5 00
	" wax.......	3 50
7	Feeders. 1 q't, tin, can be used without opening the hive, in warm weather—neat and simple	10
25	The same, 6 qts, to be used in upper story...	50
4	Frames with Metal Corners	06
5	" Sample Rabbet and Clasps........	10
10	" Closed end Quinby, nailed	05
0	GLEANINGS, Vol's I and II, each 75c., Vol IV	1 00
40	Gearing for Extractor	1 50
20	Gates, Honey, for Extractors	50

SIMPLICITY BEE-HIVE.

One story hive for extractor (body 50c—2 covers 60c—nailing and painting 20c—quilt 25c—10 frames 60c—crating 10c)........ 2 25

One story hive for comb honey is precisely the same as the above, substituting 2 frames of sections for 4 metal cornered frames........ 2 25

The above 16 sections will be fitted with fdn., and starters ready for the bees, for 15c, and the tin separators added for 10c, making whole complete.......... 2 50

The above two hives contain everything used in a 2 story hive. We simply use another body filled with frames or sections.

For a 2 story hive for the extractor, add (to 1 story 2 25) body 50c—nailing and painting 10c—6 frames 60c—crating 5c, making complete 2 story containing 20 frames........ 3 50

For a 2 story hive for comb honey add (to 1 story 2 25) body 50c—nailing and painting 10c—6 frames of sections 78c—1 metal cornered frame 6c—crating 6c, making complete 2 story containing 7 frames and 64 sections........ 3 75

If filled with fdn. starters 40c—if also filled with tin separators 30c, making $4 45, if two latter items are wanted.

To prepare the above hives for winter, put in place of the 2 outside frames chaff cushions, price 20c each, and thick ones on top 30c.

	CHAFF HIVE FOR OUT DOOR WINTERING. 10 frames below, and 14 frames or 80 section boxes above, well painted and finished complete ....(Lawn hive $1 more.).......	$5 00

These hives, if supplied with stores, will, we hope, need no attention whatever, from the time honey ceases until it comes again the next season.

0	Knives. Honey........	1 00
0	Labels, Honey per 1000........	3 25
0	Lithograph of Apiary........	25
	Lamp, Nursery........	5 00
0	Larvae, for queen rearing, from June to Sept.	25
15	Microscope. Compound........	3 00
0	Prepared objects for above, such as bees' wing. sting, eye, foot, etc., each........	25
0	Medley of Bee-Keepers' Photo's, (150 Photo's)	1 00
0	Magnifying Glass, Pocket........	60
0	" " Double lens........	1 00
	Muslin, Indian head, for quilts and cushions per yard........	10
	Parafine, for waxing barrels, per pound....	20
0	Photo. of House Apiary........	25
06	Quilts........	25
2	Rabbets, Metal per foot........	02

SECTION BOXES IN THE FLAT, PER 1,000.

Any dimensions not exceeding 2x5x5........ 10 00

The above is 50 cubic inches; for larger sizes add 10c per 1,000 for each additional cubic inch or fraction of an inch, outside measure.

2x4¼x4¼, just right to fit in L. frames........ 9 50

These are put up in packages (of 64 each) containing just enough for a 2 story hive........ 60

Sample by mail with fdn........ 5

If the grooving for holding the fdn. is omitted, 25c less per 1,000.

10	L. frame made 2 inches broad to hold 8 sections	5
30	The same with 8 sections........	13
32	The same furnished with fdn. starters all ready for the bees........	20

Adding tin separators to either of the above will increase the price 5c. and the postage 6c.

3	Sheets of duck to keep the bees from soiling or eating the cushions	10
0	Scissors, for clipping queen's wings	40
15	Seed, Alsike Clover, *raised near us*, per lb.	35
10	Smoker, Quinby's	1 50
5	" Doolittle's	25
20	" Summer Rape. Sow in June and July.	15
0	" Chinese Mustard, per oz.	25
2	Tacks, Galvanized	10
3	Thermometers	40
0	Veils, Bee, with face of Brussels net. (silk)	75
0	The same, all of tarletan (almost as good)	50
5	Wire Cloth, for Extractors, per foot	15
	" " Queen Cages	15

All goods delivered on board the cars at prices named.

☞ We will pay $1.00 cash, for Vol. III. A. I. ROOT.

MUTH'S ADVERTISEMENT.

HONEY JARS!

One pound (square) jars, per gross	$6 00
Two " " " "	8 00
One " " " flint glass per gross	8 50
Two " " " " " "	10 50
Corks for 1 and 2 pound jars	75
Tin foil caps, per gross	1 20
Labels " "	75
A thousand labels address printed to order	5 00
One qt. fruit jars, Mason's patent, per gross	17 00
Labels for same, " "	65
A thousand labels address printed to order	4 00
Uncapping knives, as good as any, each	50
" " per dozen	4 50
Alsike clover seed, per bushel	13 50
" " " " peck	3 50
" " " " pound	40
Catnip seed, per pound	6 50
" " " ounce	50

Langstroth Bee Hives,

Straw mats, bee vails etc., at reasonable rates.

For further particulars, address

7-12 CHAS. F. MUTH, Cincinnati, O.

FOR SPRING DELIVERY!

250 *Colonies Italian Bees.*

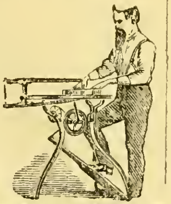
1 to 3 Colonies, each	$9 00
5 to 10	8 50
10 to 25	8 00
50 to 100	7 75

Our bees are all healthy and free from foul brood, and most of them have queens of last year's rearing. Safe arrival guaranteed by express. We guarantee satisfaction in *all* our transactions. Address

1-5d J. OATMAN & CO., Dundee, Kane Co., Ill.

Barnes' patent FOOT POWER Machinery, Circular Saws, Scroll Saws, Hand circulars, Rip Saws for general ripping, Lathes, etc. These machines are especially adapted to HIVE MAKING. It will pay every bee keeper to send for our 48 page illustrated catalogue.

W. F. & JOHN BARNES,
Rockford, Winnebago Co., Ill.



I have material for a few good Langstroth hives to spare, that I will sell cheap with or without boxes.

1d F. M. DICKINSON, Whitney's Point, N. Y.

WANTED!

Help to assist in the bee business.

1 Address, R. WILKIN, San Buenaventura, Cal.

THE BEE-KEEPERS' MAGAZINE, an illustrated monthly journal of 32 octavo pages, devoted exclusively to bee-culture, edited by ALBERT J. KING, containing contributions from Mrs. Ellen S. Tupper, and experienced bee-keepers in America and Europe. A large space is devoted to beginners, giving useful information just when it is most needed throughout the year. Terms, $1.50 per year. The Bee-Keepers' Text-Book in *German or English*, and the Bee-Keepers' Magazine one year $1.70. A 64 page pamphlet (price 50c) containing a beautiful life-like **Chromo** of **Honey-Plants** and **Italian Bees** in their natural colors, with prize of Mrs. Tupper, Queen rearing by M. Quinby, instruction for beginners, etc., sent *free* with the Magazine, on trial, 4 months for 50 cents. Agents wanted—cash commission and permanent employment. Address

A. J. KING & CO., 61 Hudson St., N. Y.

MOON'S "BEE WORLD."

Established in 1873, by A. F. Moon, at Rome, Georgia.

The Bee World has for its contributors the most practical bee men in America; besides, the editor, A. F. Moon, is one of the oldest and most experienced bee men now living. The Bee World circulates in all the States of the Union, Great Britain, and Europe, among people of all professions, and intelligent business men generally. It is one of the most reliable bee papers in the English language. A good advertising medium. Send stamp for specimen copy. $1 50 per annum. Address

1tf A. F. MOON & CO., Rome, Georgia.

Adapted to all sections of the Country.

THE
NEW JERSEY AGRICULTURIST.

A Plain, Practical Journal (8 pages) devoted to the interests of the Farm, Garden and Household. Fifty cents per year, postage paid. Sample copies on receipt of stamp. Agents wanted on liberal cash commission. Hints for the month worth the subscription price.

NEW JERSEY AGRICULTURIST,
1tf New Brunswick, N. J.

THE
British Bee Journal,

Is a large, beautifully printed, and profusely illustrated MONTHLY; clear type and fine heavy paper.

It is conducted by CHARLES NASH ABBOTT, Hanwell, W., London, England. Annual subscription, half-a-guinea.

We will send it with GLEANINGS and pay all postage for $2.50.

TERMS: STRICTLY CASH IN ADVANCE.

One copy one year $1 00, or with Lithograph of Apiary, size 12x15, mailed free, postpaid, $1 25, or Lithograph will be sent as a premium for two Subscribers at $1 00 each.

Any person obtaining three Subscribers at $1 00 each, may retain 50c. for his trouble.
" " five " " " " 1 25 " "
" " ten " " " " 4 00 " "

Any number above ten will be sent at the rate of 60c. each.

Or, GLEANINGS, $1 00; three copies, $2 50; five, $3 75; ten $6 00.

Names may be sent at any time during the year, and whenever a club is reached, we will credit back the amount previously sent us in excess of the club rates. In this way any of the

Articles Mentioned on our PRICE LIST may be Secured as PREMIUMS.

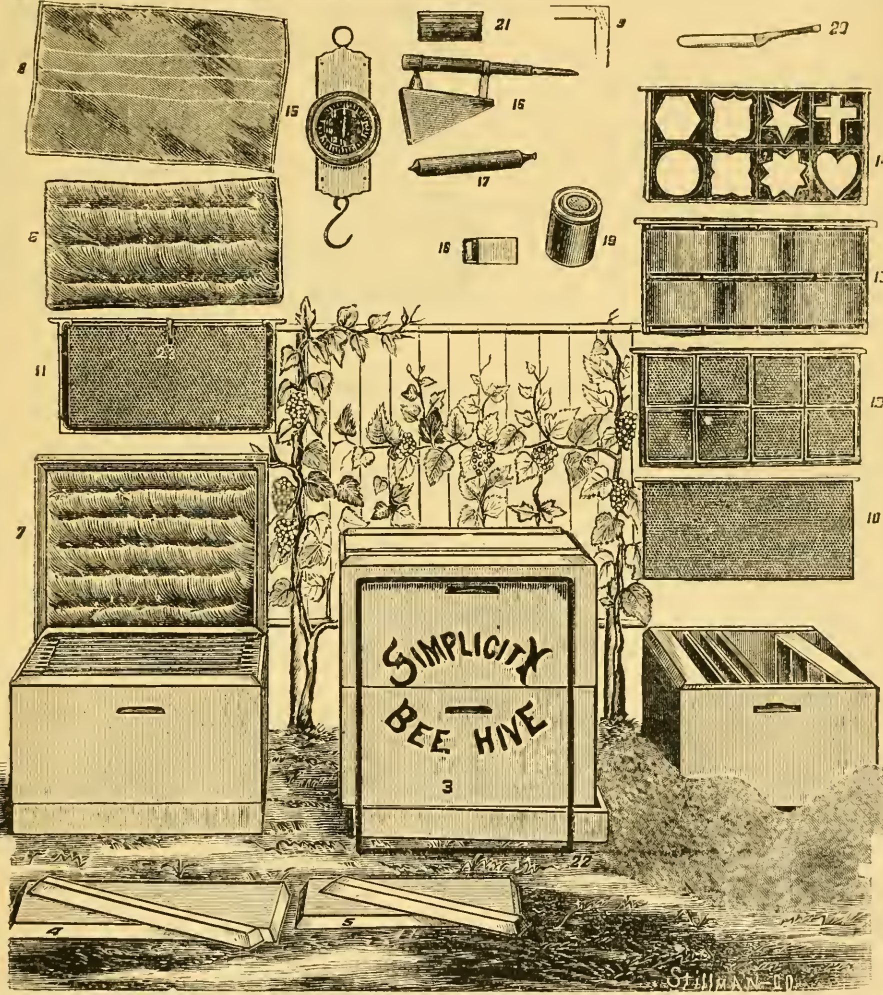
Please mention when names are intended for clubs. An acknowledgement will be sent in all cases on receipt of money—for any purpose whatever—by return mail. Volumes I and II at 75c. each, or Volume IV at $1.00 may be counted on the same terms, as we have a

Large Supply of BACK NUMBERS Provided for new beginners.

As we can not take the space in future numbers to go over the same ground again, and Volume I contains the entire Fundamental Principles and

Ground Work for Starting an Apiary.

GLEANINGS IN BEE CULTURE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SIMPLICITY
BEE HIVE
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STILLMAN CO

Implements for the Apiary.

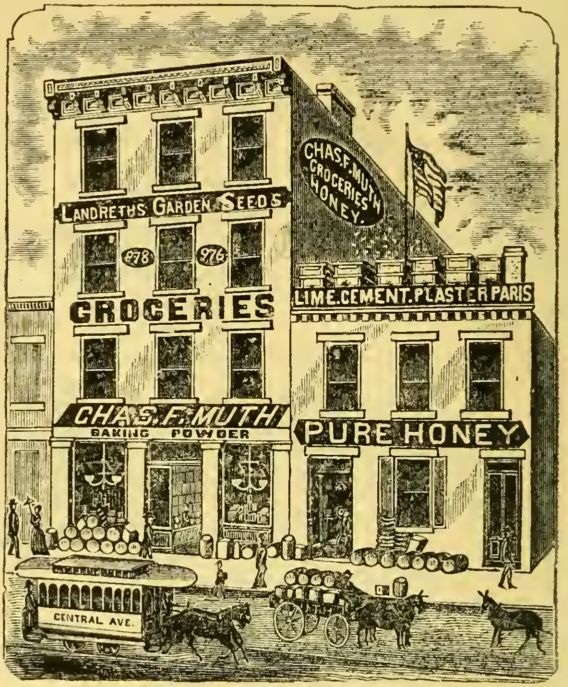
Now friends, is it not pretty well done? The grape vines show hardly as much foliage as we would have them in July weather, and our artist has put the wires in rather thickly, for we really use but 3 between the two posts. The saw dust also, around No. 2, rather needs patting down with the dust pan, but as sawdust is rather hard to "paint," we think he has done pretty well. The

Spring balance, Quinby and Doolittle smokers, quart feeder, queen cage and honey knife, we presume you all understand without explanation. No. 3, is a transferring clasp and shows the way in which it is put on the frame. No. 18, is intended for a queen cage, but it certainly does not give one a very vivid idea of the article. No. 21 is also supposed to represent a bundle of the pieces composing the section box, but the idea is so "dim" we shall have to ask you to look at the engraving of a section box below, and imagine 40 of the pieces composing it, fastened together as a square block. For further particulars, see page 43.

A beautiful article of alsike clover seed raised near us, has just been brought in, that we can sell at 25c per lb., or 42c if sent by mail. We paid $10,00 for the seed raised on 2 acres, to say nothing of the honey obtained.

Jan. 30th—1388 subscribers. Thank you all.

If things do not always please you, don't complain—*just pray !—Moody.*



AND THIS IS FRIEND MUTH'S APIARY. Just as sure as you are alive, he has the bees so well tamed that they feel at home, and bring fine crops of honey right into the heart of the city, and away up to the top of his store. He certainly is not afraid of his bees, for if he should try to beat a retreat, clear up there, he might make a misstep, and come down before the people on the pavement expected him, and that would be such a "jolt" that we fear even he, with all his jolly good nature, might find his equanimity disturbed. Long may he live, to buy and sell honey, and to make his customers glad by his prompt and exemplary way of doing business; may his bees also thrive, as they have in times past, to the discomfiture of all who pronounce "City bee-keeping" only a myth.

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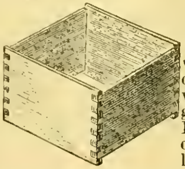
MUTH'S ADVERTISEMENT.

HONEY JARS!

One pound (square) jars, per gross........	$6 00
Two " " " "	8 00
One " " " flint glass per gross....	8 50
Two " " " " " "	10 50
Corks for 1 and 2 pound jars........	75
Tin foil caps, per gross........	1 20
Labels " "	75
A thousand labels address printed to order......	5 00
One qt. fruit jars, Mason's patent, per gross.....	17 00
Labels for same, " "	65
A thousand labels address printed to order......	4 00
Uncapping knives, as good as any, each........	50
" " per dozen........	4 50
Alsike clover seed, per bushel........	13 50
" " " " peck........	3 50
" " " " pound........	40
Catnip seed, per pound........	6 50
" " " ounce........	50

Langstroth Bee Hives,
Straw mats, bee vails etc., at reasonable rates.
For further particulars, address
7-12 CHAS. F. MUTH, Cincinnati, O.



DID YOU NEVER SEE A SECTION HONEY BOX? Well, here is a picture of what we think a very nice one, and also a newly devised tool for cutting the grooves, on a Foot Power Buzz-saw. If you will look on the other side of this leaf, you will see how they are placed in and on the hives. For prices of these boxes, see back cover, and for the tools, new price list of saws which we mail on application.
A. I. ROOT, Medina, Ohio.

TABLE OF PREMIUMS.

The first column is for those only, who send 5 or more names.

Names of Premium Articles. *Any of them sent post-paid on rec'pt of price.*	*Prices of Premiums*	*Number of Subscribers required at* 75c.	*or at* 1.00
1—*Lithograph of Apiary, Implements, etc.*	25	5	2
2—*Photograph of House Apiary*	25	5	2
3—*"That Present," Novice and Blue Eyes*	25	5	2
5—*Emerson's Binder for* GLEANINGS, *will hold 4 Volumes*	50	6	3
6— " " *better quality*	60		3
7—*Pocket Magnifying Glass*	60	7	3
8—*First or second Volume of* GLEANINGS	75	8	4
9—*Best quality Emerson's Binder for* GLEANINGS	75	8	4
10—*Double Lens Magnifier, on 3 brass feet*	1,00	9	4
11—*Photo Medley, Bee-Keepers of America*	1,00	9	4
12—*First and second Vol. of* GLEANINGS	1,50	10	6
13—*Centennial Cabinet Clock; a pretty and accurate time piece, that will run even when carried about, for only*	$2 00	15	7
14—*A real Compound Microscope, beautifully finished, and packed with Implements in a Mahogany Box*	3,15	20	8

IMPORTED BEES FROM ITALY.

Having succeeded better than ever in our importations, we will be enabled to sell our

COLONIES and QUEENS

Next spring, at greatly reduced prices.

11tf CH. DADANT & SON, Hamilton, Ill.

CASH FOR BEES-WAX.

We are paying 30 cents per pound for yellow bees-wax, in lots of from 50 to 5,000 or more pounds, delivered at Syracuse, or 31 cents, if exchanged for white wax. If you have any wax on hand, and can deliver it at the above price, please do so, and we will send you our check on receipt of the same.

ECKERMAN & WILL.
7-7-'77 Wax-bleachers, Syracuse, N. Y.

Doolittle's Advertisement.

Having had many calls for wares used in our apiary, we have concluded to sell for samples, as below; that our bee-keeping friends, if they desire, may have a pattern to work by in making them.

Doolittle's improved Gallup hive with 30 boxes and cases and wintering arrangement all complete	$6 25
Standard Gallup hive with 21 boxes and cases all complete	3 25
The above are well painted, with tin roof.	
Sample set of cases with 21 boxes that will fit any frame hive at top 14x20 (outside measure) or larger	2 00
Sample case with 3 boxes	40
Sample case with 2 boxes (by mail 16c extra)	35
Sample box ready to nail (by mail 3 cts. extra)	03
Boxes by the 100 ready to use	2 50
Boxes by the 100 ready to nail	1 75
Tin tacks for fastening glass in honey boxes, sample by mail 6 cts.; per 1000, 40 cts.; per 5000, 35 cts.; (by mail 8 cts. extra per 1000).	
Block to nail boxes on (by mail 35c extra)	1 50
Block to tin boxes on (by mail 25c extra)	50

Address, G. M. DOOLITTLE,
12-4 Borodino, Onondaga Co., N. Y.

Every Bee-keeper should subscribe for it.

The American Bee Journal

Is the best scientific and practical Journal of APICULTURE in the world. The most successful and experienced Apiarians in Europe, as well as America, contribute to its pages. In fact, it is the *oldest* and *largest* BEE PAPER in the English language. **$2.** Per Annum. Send a Stamp for a Sample Copy. Address THOMAS G. NEWMAN,
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Comb Foundations!

PURE BEES WAX.

Cut to any size desired.

PACKED IN NEAT WOODEN BOXES—PAPER BETWEEN EVERY TWO SHEETS. AT $1.00 PER POUND FOR THE WHITE, OR 75 CENTS PER POUND FOR THE YELLOW.

IF WANTED BY MAIL, ADD 25 CENTS PER POUND FOR PACKING BOXES AND POSTAGE.

If taken in our regular packing boxes, sheets 12x18 inches, 10 per cent. off from above prices on 10 pounds or over.

Wax will be worked up to order, and cut into sheets of any size desired, for 40 cents per pound.

We will pay 30 cents per pound cash for bright yellow wax, or sell it for 32.

One pound of wax makes from 4 to 8 square feet of surface. The thinnest will be used by the bees, but is not made into comb as quickly as the heavier, which has a greater depth of cell.

Sheets just right for L. frames, both white and yellow, kept constantly in stock ready for shipment; also square sheets for section boxes. About 6 of the former or 30 of the latter (enough for 1 Universal case) weigh 1 pound.

At above prices we can pay no freight or express charges either way.

The only wholesale rates we can give is 10 per cent. off from above rates on orders for 50 pounds or over, or 20 per cent. on 100 pounds or over.

Comb Foundation Machines.

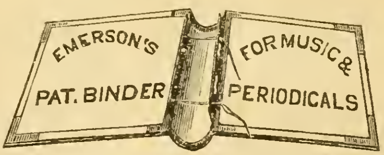
Machines for making sheets 1 foot wide -	$125 00
Expressly for L. frame, 9 inches wide -	50 00
For making 5 inches for section boxes -	30 00

The above prices are for cells 4½ or 5 to the inch. If drone size is wanted, add $10, $5 and $3 respectively to above prices. The machines are all ready for use, and full instructions will be sent to each purchaser.

Address, A. I. ROOT, Medina, Ohio.

ITALIAN BEES AND QUEENS.

I can furnish tested queens for $2,00 each. Unwarranted queens for $1,00 each or 10 for $8,50. *Nucleus stocks* with *tested queen* for $5,00 each or 5 for $20,00. Nucleus with untested queen $3,00; 10 for $25,00. I guarantee satisfaction. HARDIN HAINES,
2 (P. O. Box 93.) Vermont, Fulton Co., Ills.



You cannot look over the back No's of GLEANINGS or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said—"Dear me what a bother—I *must* have last month's Journal and it's no where to be found." Put each No. in the Emerson Binder as soon as it comes and you can sit down happy, any time you wish to find any thing you may have previously seen even though t were months ago.

Binders for GLEANINGS (will hold them for four years) gilt lettered, free by mail for 50, 60, and 75c, according to quality. For table of prices of Binders for any Periodical, see Oct. No., Vol. 2. Send in your orders. A. I. ROOT, Medina, O.

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CHEAP HIVES.

Material for standard Langstroth Hives, Portico, 10 frames, beveled edge, bottom board and caps.

In lots of 5 each	$1 00
“ “ 10 “	90
“ “ 20 “	85
“ “ 30 or over	80
Sample Hive	1 50

Two story hive and 21 frames furnished low. Material for honey boxes cheap. Address

J. OATMAN & CO., Dundee, Kane Co., Ill.

Write for circular. 2-5d

BOOKS for BEE-KEEPERS and OTHERS.

[Any of these books will be forwarded by mail, *post-paid*, on receipt of price.]

In buying books, as every thing else, we are liable to disappointment if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them *for sale* it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage, shall not be disappointed, and therefore, I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with a *, those I *especially* approve * *; those that are not up to times †; books that contain but little matter for the price, large type and much space between the lines ‡; foreign §.

These hand books that tell us how to do things, not only educate us, but they are often the very best investment that one ever makes, and the small amount they cost, comes back many times every year if they are faithfully read. When we get interested, is just the time to read up a subject. We hear of receipts for doing certain things, being sold for many times the cost of these books that contain the same thing and ever so much more, and often with illustrations fully explaining the work. I never spent happier hours than in reading my poultry books when I was a boy; and while busy with my coops and yards I not only avoided idleness and bad company but I educated my hands in the use of tools, as well as my mind in the science of profit and loss. Parents if your children have any taste for these useful pretty handbooks, is it not a duty of yours to encourage it by judicious purchases?

BOOKS ESPECIALLY FOR BEE-KEEPERS.

Langstroth on the Hive and Honey Bee**†	$2 00
Quinby's Mysteries of Bee-keeping**†	1 50
Bee-keeper's Text Book*†....muslin	75
“ “ “ “ *†....paper	40
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This, although small, is the only book we have in America that is entirely up to the times; the best for beginners.

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BOOKS THAT I HAVE NEVER EXAMINED, BUT THAT ARE IN GOOD REPUTE.

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GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

A. I. ROOT, *Publisher and Proprietor,* Medina, O.
Published Monthly. Established in 1873.
TERMS: $1.00 Per Annum in Advance; 3 *Copies for* $2.50; 5 *for* $3.75; 10 *or more, 60c. each. Single Number* 10c.

Vol. V. FEBRUARY 1, 1877. No. 2

FROM ACROSS THE OCEAN.

I HAVE the pleasure to enclose you a £10 Bank of England note with which credit me and send at your earliest convenience, goods as follows: * * * *

Thanks for the sample of wax foundation, it far surpasses anything we have of English manufacture, and I hope to give it a fair trial next summer. It may interest you to know that the extractor which took first prize at our British Bee-keeper's show in September last was fitted with *your gearing*, one of the sets I had from you—the faucet also was yours. The other parts of the machine were essentially the same as the prize extractor of 1875, that of Mr. Cowan, a description of which I sent you last year. I see you have noticed an article in the *B. B. J.* September last on foul brood, a cure for which is recommended in salicylic acid, the receipt says "Put 50 gramms of the best salicylic acid etc." This in editorial brackets is explained to be ½ lb. I make it not quite 1¾ oz. Rather a serious mistake to make in the way of prescribing. I fear the school master *Pere* is *not abroad*, but at home. Had he have learned his French weights and measures he could not have made this blunder, nor have told us a few months back, August 1875, that the price of honey in France was 130 francs the *Kilometre! nearly* 110,000 *yards!* Fancy selling honey by the mile! This will beat your Rocky mountain story. I may add that the sprinkling process described in the September article as a cure for foul brood is perfectly useless; from experience I know it. I am sorry to learn your Centennial Bee cultural Exhibition was a failure. We do not find any difficulty in getting together a good exhibition yearly; our trouble is in getting funds to support it, the cost being about £150. JOHN HUNTER.

No. 5 Eaton Rise, Ealing, England, Dec. 17th, 1876.

We are very glad indeed, friend Hunter, to have earned your good opinion on the fdn., as well as to hear our extractor gearing has been of use as a pattern in England; and still more obliged are we to you for having pointed out our errors. It would seem editors are all too much in the habit of taking things for granted, instead of subjecting them to close scrutiny, and the result is that we often see gross blunders going the rounds of exchanges. Nothing does us so much good as to have our mistakes plainly pointed out in the kindly way in which you have done it, and we really have no excuse to offer, for a verification of your statement is found in our "big dictionary," right at our elbow. As you remark, getting up a good honey show, is quite an expensive operation, and we must confess to being a little in doubt as to the expediency of attempting very many such. At our county fair, we made a very pretty show of foundation, comb honey, etc., but to get everything properly in place, and to get it back home safely, was such a task that we half resolved never to undertake it again.

* * *

SMALL BEGINNINGS.

I STARTED last May with 5 colonies, 2 in movable frames; 3 I transferred, commencing May 1st, '75.

	DR.
To 5 colonies bees	$37 00
" 11 new hives and boxes	38 00
" 1 observatory glass hive	10 00
" 1 extractor	9 00
" Tools	4 00
" 4 Vol's GLEANINGS	3 50
	$101 50
	CR.
By 14 colonies and hives	$117 00
" Glass observatory hive extra	6 00
" Extractor	9 00
" Tools	4 00
" 4 Vol's GLEANINGS	3 50
" 195 lbs. honey	42 00
	181 50
	101 50
Net profit on 5 stands bees except labor	$80 00

Yield per hive, 39 lbs. honey, mostly comb; 16 dollars each, would be about 200 per cent.

Of my 14 stands in Gallup hives, I put 6 in the cellar and have 8 packed with fine hay in boxes on summer stands. They appear to be doing well, so far as I know. My cellar is dry gravel, temperature about 40°; they appear to be contented and do not incline to get out of the hive, but keep up a low hum. Ought they to be perfectly still? Will it do to handle bees in the cellar? I wish to know their condition; if I smoke them it takes a long time to clear out the smoke and makes the air bad. I have 3 weak swarms which I wish to examine. I have but little ventilation except the stairway. It is my first experience with frame hives. N. A. PRUDDEN.

Ann Arbor, Mich., Jan. 1st, 1877.

We have chosen to give a great many of these reports of small beginnings, because all that is required, is to do the same thing on a larger scale when we get up to hundreds. As we have abundant evidence that overstocking is not the trouble, shall we not have to conclude that the same care, is all that is required?

BEE MOTH, HOW DO THEY LIVE OVER WINTER?

OF late little has been said about the bee-moth, but it may be well to keep posted in regard to its habits, especially, as it sometimes does much damage to combs that are removed from the hive during warm weather, and thoughtlessly allowed to lie close to each other.

What becomes of the moth miller or in other words where do they come from in the spring. I see that some say the eggs in the combs all get killed by by freezing. I would like to know this much anyhow; why the eggs do not all freeze? WM. ST. MARTZ.

Moonshine, Ills., Dec. 29th, 1876.

The eggs, larvæ, cocoons and all, if we are correct, are entirely klled at a temperature of about 10° notwithstanding the statements made to the contrary. The bees keep a temperature considerably above freezing, for quite a distance around the cluster, and it is in and about these combs that the eggs are kept over. In a community where all are good bee-keepers, it would seem there would be little chance for them to live over, and such is indeed the case; for in apiaries where all are movable combs and Italians, it is sometimes almost impossible to find a trace of them. Friend Stanhope, of Pentwater, Mich., said that he used to be greatly annoyed by their presence in his comb honey, but since Italianizing his bees, he has given up fumigating his honey entirely, he so rarely finds a worm in a honey box. Mr. Quinby, years ago advised taking the bees away from their combs and giving the combs a good freeze, that they might be entirely cleansed from this old time pest; and before Italians, it certainly might have been a wise undertaking. Bee.keepers of the present day, should be ashamed of having webs or moths seen about their premises. We believe it has been pretty generally agreed, that moths do little damage to empty combs if they are placed an inch or two apart; and our experience is that they only trouble combs, that are nearly touching each other. Combs that have been well frozen, we have never found infested unless the miller had access to them during warm weather, and we have kept them two or more seasons in an empty box.

SUGAR OF COMMERCE.

IS IT ADULTERAED?

EDITOR GLEANINGS:—I notice an article going the rounds of the papers, headed, "Poisoned Sugars." The principle items of interest to bee-keepers, are as follows:

"Adulteration and poison are the order of the day.* * * Almost all the refined sugars sold in this country are poisoned in refining with chemicals to a greater or less extent.* * * Formerly sugar was refined with blood and bone dust, and was wholesome; but latterly the manufacturers have found that they can refine cheaper by the use of alum, sulphate of zinc, sub-acetate of lead, etc. Competition has compelled one firm after another to adopt this mode or fail. The last company who continued to refine by the old process were driven into bankruptcy a year or more ago. * * * The coffee sugars, both white and brown, are much more objectionable than the crushed and granulated, inasmuch as they produce more immediate and acute suffering to invalids. * * * A wholesale merchant says that the saccharine matter of this class of sugars is frequently so destroyed that they stink when the barrels are opened. Therefore, when you purchase sugar which fails to sweeten your tea or coffee, beware; there is "death in the pot," in proportion to the destruction of the saccharine matter."

Now the above was written for the benefit of dyspeptics and invalids, but may it not be that we have poisoned our dear litte pets, the bees, by giving them nice coffee A sugar for winter stores, and may not that account for the diverse reports from apiarians that have fed sugar? Some may have procured sugar that was not poisoned in refining, and it may also account for the mortality in winter and dwindling in spring, that has lately visited apiaries that were once healthy on sugar stores.

Last spring, I was feeding my best stock of Italians so as to rear drones early; suddenly they had a most aggravated form of dysentery, bees would crowd out of the hive in the morning and being unable to fly or discharge their faeces, would wallow in the dust awhile and die. I took their sugar stores away from them, gave them sealed honey, and they soon recovered. ILA MICHENER.

Low Banks, Ont. Can. Dec. 27th, 1876.

We are very much of the opinion that the item is only one of the sensational ones that are sure to be copied, if they once get started; and that the one who first wrote it, was probably a near relative of the fellow who started the item about bees gathering 50 lbs. of honey in a day. Have we among our readers, one who is chemist enough to give us the real truth of all these surmises? The "wholesale merchant" quoted, certainly was not much versed in chemistry, and his statement savors strongly of interested motives.

MAILING QUEENS IN WINTER, BEES FREEZING, SECTION BOXES, HOW TO SHIP HONEY IN, ETC.

ON the 3d of this month (Dec.) I sent W. A. Douglass, Oxford, Ohio, a queen by mail as an experiment. She arrived on the 6th, alive, all the workers dead but one, the queen died next day. I did not get as many worker bees in the cage as I intended, there were but 12 or 15 with her.

After the weather gets cold enough to require fire all the time in the cars and offices, it is safer to ship, than say in May and October, when most of the time no fire is kept except at night. I did not get my bees here, put in the cellar till the 16th, and 21st, of Dec. On the 9th, the temperature was down to 20 and 22 below zero. The sides of the hives and some of the combs were covered with ice, even the carpets on top of the frames were white with frost; and the hives are full of honey, so that the bees are clustered in the lower part of the combs. I think that from a pint to a quart of bees to each hive were killed. On the 12th, they had a good fly. I have hopes that I can keep them in the cellar till April. I have 3 stocks out doors, one in double cased hive, and two in ordinary hives as an experiment. Those in the cellar are quiet and the temperature has been 38° to 40°. I want some section frames, will wait to see what you will get up between this and spring. It seems to me you do not make your frames heavy enough to ship honey in. The Harbison frame has more wood than is needed. T. G. MCGAW.

Monmouth, Ill. Dec. 28th, 1876.

Queens have before been mailed in winter, but the trouble seems to be to care for them after they are received. If we have made no mistake, a good covering of chaff, will avoid all losses resulting from bees freezing at the outer edges of the cluster. Those we have had well protected, seem to have lost almost no bees at all.

Our thin section boxes, are of course to be shipped inside the frames just as they come from the hives, and to support the bottom bars of these frames during transit, we will lay a $\frac{3}{8}$ board on the bottom board that they may rest on it as well as the rabbets. To economize space in shipping, we can easily make bottom boards that will reach clear up to the frames. Perhaps no case can be made so cheaply for shipping, as the Simplicity hive in which the honey is stored; they pack together perfectly close, and yet have very convenient handles for lifting them, both at the sides and ends, and cost only 50c. when finished and painted. The covers need not be sent to market, for the tops of the frames make a complete cover when under shelter.

VENTILATION AND COMB BUILDING.

THE last season has been a remarkably good one for bees in this locality; quantities of honey and of excellent quality. By the by, we are making a bee hive that "takes the rag off the bush" and "knocks the socks" from everything it comes in competition with. We placed a few of them in different apiaries last season and in every instance they came off with first honors. One in the apiary of John Mass, in which he put a second swarm by the side of six Langstroth hives, produced more comb honey than all the rest put together. W. A. Douglas put young swarms in two; they filled the lower set of frames solid full, and made him an average of 40 lbs. of surplus honey besides; how is that for young swarms? There is no patent on this hive and it can be built for $3.00. I started out with the idea that thousands of bees had been ventilated to death and kept that idea steadily in view. I first started with the common box hive, changed to Langstroth, and then bought a patent hive of a man by the name of "Brat" and Brat he was by nature as well as name. Gave $5.00 for right of township. We don't begrudge the money as we got some good ideas from it, and have made so many changes we don't think any of the Brat family would know the hive now, and this is the hive with which we expect to beat the world. If it takes 100° of heat for bees to build comb it is no wonder that so many hives of the country are failures, for it would take a half bushel of bees to get up that temperature. We claim that a quart, or two quarts at most, can build comb in our hive, and comb honey is the only honey that will sell in our town without putting the price down to that of molasses; hence the advantage of a hive for comb honey.

JOHN R. LEE, Oxford, O. Jan. 5th, 1876.

We feel pretty well satisfied that one great trouble in getting comb honey, is having too much draught through the hive, or having the surplus receptacles protected by nothing but thin wood. It is by no means necessary to throw our hives away and get new ones, for we can protect any hive, or almost any kind of honey boxes with the chaff cushions in what seems to us to be the best manner imaginable.

CHAFF CUSHION DIVISION BOARDS.

Division *boards*, are a nuissance, as almost every one has had occasion to feel, but the chaff cushions can be handled, and tucked up closely around the bees with such facility, that it hardly seems a task. The Indian head is much the cheaper material, but we fear the bees may bite through it. We hardly think they will be as likely to however, as with the quilts, but if they do, we shall have to adopt the duck, which would make a very durable article. To have them nice, a band should go clear around, that the edge instead of being sharp, may be square, making a shallow square box as it were, of cloth, before the chaff is put in.

ENTRANCES.

In connection with close warm hives we would remark that we have always had a sort of preference for an entrance a few inches above the bottom board, were it not seemingly more difficult for the bees to clear out the hive. This may be but a notion after all, for hives well filled with bees with entrances thus, keep quite as clean as any. Quinby recommends in his book, boring a hole in the front of the hive, and gives as a reason that the bees will quickly show which one they prefer. Such an entrance would certainly do much to keep the hive warm in early spring, for they go out and in without even stepping on the cold floor of the hive at all, and we confess to having quite a fancy for seeing the bees go in such an auger hole when busily laden with pollen in the spring. After the season gets so far advanced that they need a larger entrance, the hive can be moved forward and those that prefer the lower entrance, allowed to take it. We are reminded here that our handles, or rather the places cut in the Simplicity hives to lift them by, will make beautiful entrances if a hole is cut clear through with the point of a knife. Lest friend Lee should think we had forgotten all about *his* hive, we will ask him to tell us how it is made, and describe the handles under another article.

THE BEST HIVE.

FRIEND NOVICE:—Within the last few weeks I have been traveling all over the country, not for pleasure only, although it has been very pleasing to me, but to gain if possible important information on a certain point or question in bee culture which has not been fully settled, viz: *What hive is best for gathering honey in boxes or small packages?* And now before I forget it, let me say that I did not travel by rail, but mostly by all the bee journals published within the four or five years past. And perhaps I ought to say that I am so *constituted* that it gives me always the greatest pleasure to share with others any seeming good. Why, I am so singular in this regard, so made up, so to speak, that I really believe I enjoy a good hearty laugh better with friends, than to go behind the barn and laugh alone!

But what has all this to do with that hive? Did you find it? Of course I did. The very first successful bee-keeper I came to had it. It was an *improved* Langstroth, and the gentleman claimed that it made it "so *very convenient* and withal *so simple—so easy* to manipulate that it left nothing to be desired," etc., etc. Well, I found about 500 different styles of hive, more or less, in my travels, and most of them were *improved*—all the way up to Quinby's, and *that* was improved too. In fact, I believe he improved it *three* times himself. I have named my discovery "The Im-

PROVED.” I would have given it a more fanciful name, but I was afraid some of these patent-right-men might come down on me like a nighthawk on a June bug, for damages, for they have got all the handsome names, you know, and I don't feel quite sure that I haven't stuck my foot in it now. I'd write it in Greek, just to balk 'em, only I don't know how. *Sub rosa*, I have every winter for five years past, got up an *improved hive*, have got one on the *stocks* this winter.

In the good old days of the scythe and snath, no two would agree as to the hang of the thing. One wanted *his* scythe to hang out, the other wanted it in, nibs were too far apart or too near together, and so on; but when all the tinkering and filing was done, the happy fellow cocked his snath on end, gave his whetstone a clattering stroke on the scythe, which meant “you can't cut my corners,” and away he went.

The above hardly needs an application. The man who succeeds and likes his hive, has got the *best one.* let him keep it, alter and tinker it as much as he pleases, and be happy! Now friend Novice, as I have found *one* kind of hive for which so many have been looking, suppose you get some one to look up the “non-swarmer” hive. I am willing to help with my *advice* and—and *moral* support, but wouldn't put any money in it! Suppose you get that fellow who can stand a ladder on end and lean it against nothing, climb to the top and haul the ladder up after him—let him bring along his seven leagued boots, he'll need 'em bad—give him *carte blanche* and have him start at once You'll see him back the first day in April, I reckon. looking thinner than the man who dieted himself on the broth of cod-fishes' tails for a month. *There*, I feel better, *unanimously!*

FRAMES.

I have been cudgeling my brains to find out a way of placing frames in the hive otherwise than by hanging by ends of top bars. I want them without ears or projections of any kind—*want them for* END *and top gathering hives.* Of course the frames will be open and with the side to the entrance. I know of Mr. Quinby's way, but can not something be devised better? They should be so arranged that when top boxes are off, the frames can be removed the same as the hanging frames. Is there such a frame? Who can tell? If there is not, some one ought to immortalize himself with Langstroth by inventing one. Let us hear all about it through GLEANINGS.

R. H. MELLEN, Amboy, Ills., Jan. 9th, 1877.

We have puzzled our brains over the same problem in regard to frames, especially when we wanted to take out the lower frames from our chaff hive, without removing all the upper ones. There are ways of doing it, but all, so far, are too complicated and expensive.

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[From the *Bienen Zeitung*, Hilbert, author.]

THE CURE OF FOUL BROOD BY MEANS OF SALICYLIC ACID.

ENCLOSED is a translation of a German essay on Salicylic acid, which has made some stir in European bee circles. I will send you another soon, on milk syrup as a substitute for pollen in the spring. I think your readers will like to know what subjects are engaging attention over here.

J. P. JACKSON.

Percy House, Tottenham, London, Jan. 2d, '77.

The question which I shall consider in this essay is: “Can any system of curing infected stocks be simplified without endangering its success?” The mode of treatment I advised at our last Congress was as follows: Put 2 oz. of crystalized salicylic acid into a bottle containing 1 lb. (8 times the amount by weight) of spirits of wine and after shaking it well up, cork the bottle and put this “salicylic-spirit” away for use as required. Confine the stock to be operated upon to very few frames, (joining several stocks, if they are not strong) then spray the bees, combs and hive with a solution of 28 drops of the salicylic-spirit to every ounce of water, taking care that the water is warm, (60—90° Fahrenheit) and the spirits well mixed with it. Then go over the combs and dip to the bottom of each diseased cell a very small wooden spoon, filling it each time with a solution of spirit and warm water in equal proportions. This proceeding should be repeated every week, till a cure is effected, not omitting now and then of an evening to spray all alighting boards in the apiary with the weak solution. The stock should also be fed with disinfecting honey or sugar syrup, in the proportion of 30—50 drops of the spirit to each gill of syrup.

I now recommend a simplified method, which I will call the “hospital cure.” By adopting it, the above use of the spoon is no longer necessary, except in such case as, the following instructions having been adopted, the bees should leave single cells uncleansed. This treatment however should only be pursued in preference to the first when the stocks to be operated upon are strong in bees.

Take all the brood combs, with sufficient young bees to cover and nurture the brood, from the infected stocks, and place in an empty hive; it will take the brood of 3 to 6 stocks to fill one of these “hospital hives.” The latter and also the original stocks should now be *thoroughly* sprayed with the weak solution and they should be fed with the disinfecting syrup. If the original stocks contain combs of honey, they should be removed and after being well disinfected may safely be given to healthy hives. The spraying to be repeated at least every 3 days and the food administered daily. As these hospital hives do not possess a queen, the bees have not a constant fresh growth of brood to attend to, but the thousands of young bees, which daily emerge have only to care for the original brood and to clean out the infected cells. This cleansing of the cells may be quietly waited for and only if after about a week, single capped foul-broody cells are to be seen here and there, should the bees be assisted with the spoon after the manner already detailed.

When the brood is at last quite healthy again, that is to say, when no more foul-broody cells appear, it can be left to the bee-master whether he will give the hospital hive a queen, will let it swarm, or will give back the brood that is not yet emerged, to the original stocks.

It has occurred within my experience that the queen of a foul-broody hive, from being fed with the juices of dead larvæ has become so permeated with the virus, that even her eggs have contained micrococci, the germs of the disease. In such a case the best course to pursue is to destroy the queen and replace her by a healthy one.

It will save considerable fatigue if you obtain at a chemist's a spray-diffuser fitted with an India-rubber ball which on being pressed supplies the wind, which would otherwise have to be produced by the lungs.

Thymol in the proportion of 34 drops of the spirit to 2 oz. of warm water may be used externally in place of salicylic acid, but it must on no account be given internally.

I have also tried carbolic acid, but find it is of no use, and the bees have such an abhorrence of its smell that they always abandon the hive on which it has been used.

It must not be considered that the method I have here detailed is only theoretical, for it has been put to the test by our leading apiarians and found uniformly successful; in fact I do not hesitate to affirm, that if these instructions be conscientiously followed, a perfect cure will be the result.

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DOOLITTLE'S SYSTEM OF RAISING COMB HONEY.

Continued from last month.

WE will suppose your boxes are all made and put into the cases, tin separators nailed on, and all ready for the hives except the starters. Friend D., as you know, is inclined to prefer starters of natural comb, and he tells you how to get a supply of these, on page 296, Dec. No. Take your nice white comb and cut it into strips 2 inches wide; then cut these on an angle so that you will have pieces about triangular. This shape seems to be just about as the bees like them best, and they are less liable to get broken, having a long surface to be waxed to the top bar of the section. When you have enough of these starters ready, you are to get two pieces of ½ inch round iron about 2 feet long, bent and flattened at each end. One of these is to be heating, while we are using the other. As friend D. knows by experience just how these are to be made, we suggest that he put them in his price list. Lay your case with the 2 boxes in it on the table before you, and hold your piece of comb on the top bar—top bar is downward—and then slide the thin blade of the hot iron between the starter and the top bar, and as you draw it back quickly, set the comb down just where you want it, and it is a fixture. Now this is not all, for if you want the bees to get to work at once, you *must* put a starter that will nearly fill the section, in one of the central boxes to every hive. If you forget all about this part of it, you do not deserve success.

We do not remember whether Mr. D. puts the first boxes on the top or at the sides, but we would advise putting on the side boxes first, especially if we were going to get them to make a start during fruit bloom, for we could thus avoid removing the top covering until they commenced bringing in the honey quite briskly. If a colony is small, and does not build up to a full one before the season is almost gone, they can put what honey they do get in these side boxes, and they will furnish just as nice an article, as the ones that do so much. When they get once started, be sure they have all the room they want, and to this end, friend D. removes every box as soon as it is finished. The top boxes and those on the sides, are of course just alike, as are the frames that hold them. It will be recollected that the latter had short projections on the top bars; well, when they are used for side storing, they hang on rabbets similar to those for the large frames, but these rabbets, are so as to allow the lower tier to come within ½ inch of the bottom board. The set above these rests on nails that are driven part way into the tops of all the top bars. This is to avoid crushing bees when one set is placed on the lower ones.

We will suppose you have your boxes all filled and stored away, and are thinking about a market. Glass a few boxes, and take them to your nearest good city market, and make a bargain for your whole crop. When there, buy your glass, glass your honey, deliver it yourself, and get your money. The greatest expense of your package, is your glass, and by managing as we have mentioned, you can get the money you have paid for it back in less than a week. To have the boxes nice, the glass must be an exact fit between the uprights, but it may vary a little the other way. On this account, you had better purchase it in long strips and cut it yourself, of a width to go between the uprights.

BEE BOTANY AND ENTOMOLOGY.

MR. A. Fahnestock, of Toledo, O., desires to know when, how, and how much of the following honey plants: black mustard, borage, mignonette and rape, I would sow to the acre. All of these plants except rape and all others except clovers would plant in drills. We must keep out the weeds, which is done at too great expense if sown broad cast. I should *prefer* to have *all* plants in drills. I would plant black mustard, borage, mignonette, and let me add Cleome integrifolia (Rocky mountain bee plant) the middle of May. Rape from middle to last of June. Black mustard 10 lbs. to acre. Borage, I should plant in drills a foot at least apart—two feet would be better—and should want a plant every three or four inches. I don't know as to quantity. I should suppose 1 lb. of mignonette would plant an acre, the seeds are very small. I am not sure as to amount. Rape, two quarts to acre.

A. J. COOK.

Agricultural College, Lansing, Mich., Jan. 10, '77.

The same question propounded to our seedsmen of Cleveland, brought the following reply.

Black mustard, summer rape and mignonette should be sown early in the spring as soon as the ground can be worked, at the rate of 8 to 12 lbs. to the acre, broadcast. Borage being of a strong vigorous pyramidal growth we think would be better in drills about 1 by ½ foot apart, at which distance 4 to 5 lbs. would plant an acre; one planting would answer for several years for although borage is an annual it will seed itself and appear year after year. We have not sown any for at least two years and yet we have not been a single year without fine specimens on our grounds, which when they come in suitable spots we permit to stand for their beauty as well as their usefulness. Borage and mignonette continue in bloom longer than mustard or rape. Mignonette will bloom from July until very late in the autumn, slight frosts do not affect it. Bees work on mignonette but whether for honey or pollen are not prepared to say, not having taken sufficient observation; there is no doubt however about borage, which seems to be visited only for honey.

There is one class of plants we have never seen mentioned as bee or honey plants, and yet they contain large amounts of the purest honey; this is the family of *Aquilegias*, commonly called columbine, very hardy perennials, the roots of which remain in the ground for many years constantly increasing in vigor.

STAIR & KENDEL.

Cleveland, Ohio, Jan. 17th, 1877.

Kruschke Bros., in their little book on rape culture, advised 3 lbs. to the acre, and that it be sown from the 20th of June, to July 1st. See page 79, Vol. III.

WINTERING ENTIRELY ON SUGAR, CHAFF PACKING, AND CHAFF IN SUMMER.

THE fall of 1872 found me a tyro in the bee business with several good colonies and a few which were short in everything. The queens in two of the poorest colonies cost $5.00 each, and I was particularly interested in them. What shall I feed was the first question which presented itself. And after searching Quinby's book, King's book, The Bee-keepers' Journal, and asking a number of old bee-keepers, the question was not satisfactorily answered. All agreed that sugar syrup was a good feed for spring; one said "may be used sparingly in the fall;" no one said that bees could be wintered on it. I had no honey and could not buy any near home, so I gave them plenty of syrup in October. And when done feeding, the hives were a little more than half full of comb, with nearly every cell full of syrup.

Where shall I winter? was the next question in order. Something which I read led me to consider the subject of outdoor wintering with protection, and resulted in my packing seven colonies in dry goods boxes. The two colonies referred to above were packed in a 10 bushel box, the packing being a mixture of broken straw and chaff. The bottoms were thoroughly protected, and there was about four inches of packing at the ends, with six inches at the sides. The tops of the frames were open and covered with a thin cloth and two inches of the packing—the lid of the box fitting closely on top. The only opening at the bottom was a ¾ inch auger hole. The box was placed 15 inches from the ground and thoroughly roofed so as to protect all parts from rain. Warm days were rather scarce during the winter of 72-3, the bees in these two colonies flying but three times from the latter part of Nov. to the middle of March; and they were stirred up at these times by my opening the hives at the top to see if they were alive. I have been particular in describing the packing of these two colonies for the reason that the results were fully as satisfactory as with any plan which I have tried. In one dry goods box that two low hives were packed in during that winter, there was a space of 8 or 10 inches between the lid and the packing; and one day when the mercury stood at 12° above on the outside it stood at 21° above in the inside after the lid had been on fifteen minutes.

AMOUNT CONSUMED IN WINTER.

In the fall of '73 two hives which were weighed Oct. 6. packed Nov. 7th, and unpacked and weighed March 27th, '74 lost 13¾ lbs. and 14 lbs.; three hives weighed Oct. 6th packed Nov. 3d, and unpacked and weighed Mar. 20th, lost 9½ lbs, 9¾ and 10½ lbs; two hives weighed and packed Oct. 30th, and unpacked and weighed Mar. 30th, lost 8 lbs. and 10 lbs. Bees flew frequently that winter, the coldest day being 8° to 12° above zero. During the winter of '74-5 I had 17 colonies packed—lost two queens. Last winter I had 8 colonies packed—let one starve, lost two queens—unpacked three in May and left 4 packed all summer.

My hives were all well shaded and most of them had openings ½x10 inches yet the four colonies which were packed in a close box with an opening ¾x3 inches to each hive seemed to be as little affected by the heat as the others. These four worked as well and seemed a little less inclined to swarm than the others. My experiments in this packing business have proven only one thing to my entire satisfaction, and that is just this, that to use a common hive, pack it in a box for winter and take it out in summer is too much like work. I have mostly unpacked too soon in the spring and the tops of the frames have been covered with a cotton quilt which is probably not as good as a chaff cushion. One colony that was unpacked in May gave the best results last summer, but one that wintered on its summer stand was nearly as good. And several colonies which wintered on summer stands gave better results than some that were carefully packed.

R. M. REYNOLDS, East Springfield, O. Jan. 10th, 1877.

AN APIARY OF COMMON BEES.

200 COLONIES OF BLACKS.

ENCLOSED please find subscription to GLEANINGS. I would not do without it if the price was $10.00 a year. I have almost been tempted to visit you in order that I might once in my life see a genuine bee man, such a person I have never seen neither have I seen an Italian bee or section box. I got 1 lb. of your fdn. last spring and was not long in proving it a failure. I was very sorry it was so for I am so bothered to get dry comb for starters. I did not *send in bill* as you directed as I was perfectly satisfied to bear part of the expense of such experiments, and now I expect to send for some of your improved article on the strength of published recommendations, but if the bees refuse to use it you must expect some big words. Last season was the worst I ever knew here, yet I have two tons of nice box honey, and for next year I have 200 strong colonies divided in three apiaries. I commenced with the "Bay state" hive and have 50, but they did not meet my requirements and I made one similar to the American; they do right well, but now I have another contrived up to make this winter, which is like many others "The very best." It is something like the Deacon's one horse shay. I do not intend to have it patented. nor shall I publish its qualities until I know they in reality exist. I will give you my views if you will act as judge of their merits. The object of this hive is, ample room for boxes, frames easily taken out for extracting, and wintering out doors on the stands. It is not a non swarmer, yet the No. of hives in an apiary never increases.

J. F. CALLBREATH.

White Lake. N. Y. Dec. 20th, 1876.

Thanks for your kind but plainly spoken words, friend C. Although we may merit the title of "bee man," we feel we should hardly be equal to the task of getting 2 tons of honey, from your apiary of common bees. Had you told us your number in the spring, we might judge better. Should you pay us that visit, please do not be disappointed, if you find us so busy at times, as to be hardly sociable. In regard to hives, we have decided to let the people be the judge; if they refuse to pay for large and complicated structures, preferring the low priced Simplicity hive, we have concluded they know best what they want. You have aroused our curiosity in regard to a hive that will prevent increase, and yet is not a non-swarmer; please tell us more about it.

FOUNDATION, WHY BEES SOMETIMES REFUSE TO USE IT.

THIS has been a puzzling question, especially as our bees so readily commenced work on the paraffine, and all the various mixtures with which we experimented. On thinking it over, we remembered that on one occasion, we had some small cakes of white wax sent us as samples, which remained so long in the hives untouched that we made enquiry of those who rolled it. At first they said it had no different treatment, but finally admitted that a much larger quantity of soap was used than usual, to prevent its sticking to the rolls. We thoroughly washed one of the pieces, and it was worked out without trouble. If it was the soap that induced the bees to refuse to work on some we sent out last season, our patrons may rest assured we shall try to avoid such troubles in future. When a thing works beautifully with our bees, we feel we are excusable in offering it with confidence to others; still, we are anxious to have all adverse reports sent in.

STRAIGHT COMBS, ETC.

We are asked to give an article on securing combs built true in frames. To have all our combs built true in the frames so that each comb is as straight as a board is certainly something worth working for to those who ever handle their frames, and we here make the assertion and care not who says to the contrary, that by a judicious handling of the frames in each hive one-third more honey can be obtained than by letting them alone, *a la* Heddon. We use a wax guide secured by means of a straight edge as given on page 12, Vol. II, as a starting point toward straight comb but can not depend entirely upon it nor any other guide we ever saw, for bees are sometimes very obstinate and will build crooked combs if they do not go direct across the frames. Consequently it pays any apiarian to look at each stock hived on empty frames while building comb, as often as once in 3 days. If any combs are found going wrong they can be bent back in line very easily and after a hive is once filled they are good for a long time, as we never saw one we would discard on account of age.

SWARMS, HOW TO HIVE THEM.

As the readers of GLEANINGS are aware we prefer natural swarms to artificial, we will give our management of a new swarm. As all our queens' wings are clipped we hive them by letting them return, previously moving the old stock to a new location and setting the new hive containing the full number (9) of frames in its place. In two days we open said hive and usually find the bees have made a start in 5 frames.

DIVISION BOARDS, UTILITY OF.

These 5 frames we place together at one side of the hive and a division board is placed next. This throws the full force of bees on these frames and they will soon fill them with straight worker comb, as a general rule. If you get these 5 built straight you will have no trouble in getting the rest so, as they can build them no other way if placed between two of those already built. If every comb is a straight comb and all worker, such a swarm will be a profitable one or a "LUCKY SWARM" as it used to be termed. If you get the hive in the right form and attend to the building of the comb the first season, you will have *all* profitable swarms. No apiarian, if he has no more than 3 or 4 stocks should consider a swarm in proper working order until each comb is a straight worker comb. There is no need of having hives half full of drone comb and so crooked that they can not be handled. Do things at the right time and in a proper manner and your bees will more than pay you for all the time spent on them.

We want it understood that we do not claim that the hive we use is the best, by any means, but the method of getting comb built is correct. Suppose a large swarm comes out when basswood is in bloom and you hive them without paying any farther attention to them; they will build comb very rapidly, filling their hive in 8 or 10 days as we have known them to do, and their combs will be quite apt to be crooked and at least one-third drone or store comb which is good for nothing for raising workers the next season, and is an actual damage, as the drones will consume a great part of what the workers gather. Such swarms will be unprofitable ones either for raising bees or for storing honey just so long as you keep the comb in that condition. Again, by the use of the division boards we keep all stocks strong as far they go in the spring, and a stock that can keep two combs full of brood and covered with bees is a perfect swarm to all intents and purposes. Such a stock will store just as much box honey according to their numbers as a larger one and will send double the number of bees into the field that they would if scattered over 5 or 6 combs. This economizing all the animal heat is not mere theory but can be proved in 24 hours at any time in May or June. Take one of these small swarms at night, remove the division board and move the two frames bees and all into the center of the hive, and the following day nearly all the bees will stay at home to keep up the necessary temperature. Place them back at night as before, adjust the division board and the next day they are ready to go to work again, and you will find the queen can and will deposit eggs whenever there is empty comb. When these two combs become crowded with bees we always put an empty comb or an empty frame for them to fill, between them. By so doing when the hive is full every comb is occupied with brood and all the eggs instead of being laid on the outside of the cluster are where they *should* be, *in* the cluster.

If any person expects to realize a large income from his bees and never look after their condition (simply hive them and put on boxes) he will find himself greatly mistaken. How many that read this know the exact condition of their bees at all times? If you do not my friend you are not caring for them as well as you would for your cow or horse, neither can you expect any more profit from them than you would from a cow or horse if you never looked after it. Bee-keeping only pays when our pets are properly cared for, and if anyone can not spend the amount of time on them they require he had better keep out of the business for sooner or later he will turn away from it in disgust. G. M. DOOLITTLE.

Borodino, N. Y., Jan. 2d, 1876.

The above is our idea exactly, and the best and handiest division boards we ever used, are the chaff cushions. Friend D. omitted to say what he did with the clipped queen during swarming; our plan has been to cage her and leave her near the entrance until the bees come back, then let her go in with the rest.

INCREASE EXTRAORDINARY; SWARMING, NATURAL AND ARTIFICIAL, WHICH IS LEAST TROUBLE; SQUARE HONEY TUMBLERS.

I NOTICE in the Oct. No. of GLEANINGS that friend Jeremy Lake of North Easton, Mass. wonders if any one can name a case in the north when first swarm sent out a second one. I gave $2.00 for a small swarm (not more than a quart) some time in June, and put them in a hive with but about half a frame full of empty comb. They sent out 5 good sized natural swarms before the last of July and gave over 30 lbs. of surplus honey, besides furnishing combs of brood for several young swarms. They are all in fine condition. Have just bargained 3 of them for a fresh milch cow. "How high ish dat?" Our bees all appear in good shape so far. Geo. B. Peters says in Nov. No. page 266 that he can hive a half dozen natural swarms while he is making one artificial one. That being the case he must have a slow bungling way of making artificial ones. How I'd enjoy a race with him!

I too would like to know where the square jelly or honey tumbler with slide cover can be bought. They are very nice.

How any one can dislike your metal corners is a mystery to me. Let your Sharpville correspondent state his objection. Having a great many honey boxes to make for myself and others I would ask you *about* what you would charge me per hundred for light fdn. suitable for surplus, cut in triangular pieces about three inches each side? J. M. Gormley, Cary, O. Dec. 30th, 1876.

The increase mentioned, is another of the wonderful and almost incredible ones we have had reported this season, and they are all very easy to account for, with a very prolific queen, and a continued yield of honey for months at a time, as we had it here. Our *young* friends, should be careful about making calculations on such seasons as a rule; make up your minds to be content with 50 lbs. of honey from each old one, and then do better if you can.

It may be a little difficult to decide which of the two methods of making swarms is the least trouble, and much will depend on circumstances. If we adopt the plan given by Doolittle in this number, we have only to move the colony away as soon as a swarm issues, put our new hive in its place, and the work is done without even opening a hive at all. This of course pre-supposes the queen's wing to be clipped, and that we find her without trouble. Can anything be simpler? On the other hand, if the owner is usually absent in the middle of the day, it may be much easier for him to remove a couple of frames of brood to a new hive before breakfast, and then help them a little more when their queen begins to lay. Reader which will be easiest for you? With the latter plan, all new stocks can be easily reared from an imported or choice queen, but with natural swarming we shall have hybrids and blacks all mixed up unless we first get all stocks all about us pure —almost an impossibility at the present time.

Who will send us the address of a manufacturer or dealer, in the square tumblers? Perhaps Muth, could add them to his list profitably. We can furnish fdn. in triangular pieces, 3 inches on a side, for ½ cent each.

P. S.—Since reading the above our attention has been called to the fact that this enormous increase mentioned, was all from a quart of bees, and in a period of less than 8 weeks. Friend G., we fear we shall have to suppose a heavy swarm of bees must have gone into this colony—by no means an unusual occurrence —at some time without your being aware of it. Full 21 days must elapse before a single bee can be hatched in any swarm put into a new hive even if they were furnished with empty combs, and meanwhile the quart of bees would go down to considerably less than that number. If five swarms issued, the first must have come out ten days or two weeks before the last of July, and at this rate, our poor queen with her few bees would have to perform feats of brood rearing in a few days, that even Doolittle, would consider impossible. If we are in error anywhere, we should be glad to be corrected.

BEE THIEVES, REMEDY FOR.

I WISH you a "Merry Christmas," friend Root, and enclose * * * though you will have to set me down among the "Blasted Hopes" as well as "blasted thieves." I can kill the king birds, spiders, ants, carry off the toads and fight the worms, but the nasty thieves, they come in the night and are gone in the morning with your best boxes or hives of honey. I was preparing to winter my bees (20 swarms) on their summer stands, packed as usual in sawdust, but the thieves sent them down cellar, where they now are. I am building a house to put my bees in as soon as we have a warm spell. My former experience does not dispose me favorably toward bee houses, but it is bee house or quit, as I can't afford to feed thieves on honey. As you seem to have the chaff fever rather strong, I will suggest that you put the 3 inch box under your hives as J. P. Moore directs, but fill the box with coarse shavings up to the combs. These keep the bees off the cold wet bottom and give a good passage to the middle of the hive. I lost one, and injured three more, winter before last, by neglecting to do so. N. Case, Toledo, Ohio.

It will pay with only a few stocks, to make a tight board fence all round your apiary, as much as eight feet high if possible, and if your dwelling is arranged so as to open into this yard, it makes rather close quarters for thieves. It requires a pretty strong inducement for them to get over into such a place and with the unpleasantness that bees often occasion when disturbed, we think few will be induced to try it. The fence will pay, aside from the protection from thieves, by keeping away the cold winds. If your neighborhood is a *very* bad one, make something on the plan of the house apiary, keep it locked up, and both your bees and honey are safe. You are right friend Case, we certainly can not afford to feed thieves on honey. May I venture to suggest that starting a Sabbath school in your neighborhood and going in, *yourself* to help teach that thieving is very unprofitable, would be worth all the padlocks and jails ever invented.

OUR OWN APIARY.

SOME one made the remark that perhaps we did not care to tell just how many colonies comprised said apiary, just now, but we assuredly have no objection to telling anything about our successes or reverses. Our 46 the first of last May, increased *themselves* by swarming, to 91, and gave us perhaps a ton of comb honey; it may have been a ton and a half, but as we had no time to weigh it, will call it the former. Some one asked about the hive with the hexagonal combs; now at the risk of being laughed at, I will try and tell the truth frankly. They did finely under their chaff covering, built out the fdn., and raised brood, until their hive contained rather more bees than honey. About the first of Oct., I saw they needed stores for winter. Right in the honey house just at hand, were L. combs weighing from 1 to 10 lbs., but so long as this hive would not admit the L. frame, nothing could be done in that direction. We had before resolved that nothing should tempt us to have two kinds of frames in the apiary, but here we were again in the old predicament. A feeder was given them and very soon they were rejoicing in peace and plenty, but alas, some of their inquisitive neighbors soon began to rejoice still more than they, even uproariously, for they were by some strange freak, allowed to go in and out without challenge or molestation. In vain did we try to arouse a bit of spunk in these black hybrids; they would allow any bee in the apiary, to go in and load up just as long as there was a cell full of honey in the hive. Mr. Quinby mentions having hives that allow themselves to be robbed in the spring, but we do not know that we ever before saw one do it in the fall. They were fed along until some frosty nights came, and then they starved. Not much loss, for they had always been a poor shiftless set, yet it spoiled our experiment.

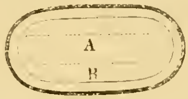
A few days afterward it was warm and sunny, and as we were going to supper, some one said a swarm of bees had just passed over. As they were going our way, we kept a lookout for them, and soon overtook a small swarm that had apparently starved out; these were pure black bees. They went so slowly, seeming half inclined to cluster on every tree or shrub, that we had ample time to examine them. They finally commenced clustering on a carriage standing in front of our apiary, and fearing they would annoy the horse, we desired the occupant to drive along; as he did so, they commenced to cluster on my head, and directing my daughter to bring a frame of comb, I stood quite still while they buzzed in my ears, covering nose, eyes, hair and whiskers, until I could hardly "hear myself think" on account of the droning noise they kept up. Instead of being unpleasant, it really made me feel sleepy to be fanned and to feel the sensation of so many little feet about my face and ears. As soon as the comb came, I placed it on my shoulder and soon found the queen; then all were deposited safely in front of the hexagonal "experiment." Now I regarded this as quite a feat, and as the juveniles gathered round me and called the attention of the passers by, I felt quite like a "lion" until some one said a little girl could tame bees as well as I. Sure enough, there she stood with bees all about her head and in her hair, yet she was as undisturbed as if they had been so many pet kittens. Some of our friends who insist that one must be enveloped in a whole "covered wagon" when they wish to open a hive, would do well to take a lesson from this little miss. In getting the bees out of her hair, she was stung once but it was only because the bee was carelessly pinched. They all went into the hive, were given some candy, and seemed ready for business. It would be really nice, to say they behaved and make a good colony, but they deserted their candy and swarmed out again next day. Four of those heavy combs of honey might have made them good, but they would not go into that hive, and so the bees were lost again. The hive will probably go into our "monument," up against the fence. And we rather think future experiments will be made with the regular L. frame.

We have now 90 colonies, if none have died, and if they have, it is probably not of starvation. Besides these, we have 15 at neighbor Blakeslee's, in that excellent cellar of his; these were some we traded for, and we shall thus have an opportunity of comparing cellar wintering with out-door. We commence the new year with 105, but as the first of May has been decided to be the beginning of the bee year, we will try to report as many then.

Jan. 24th—From the number of dead bees found clogging the entrance to many of our hives, we fear chaff cushions over head only, is hardly going to answer. So well pleased are we with chaff all around, and the bees, on only a few well filled combs, that we feel like fixing them all with chaff as soon as the weather will permit.

HOW TO MAKE COMB FOUNDATIONS.

As we are constantly improving in the work, we can only give our methods at the present stage. The first thing is to sheet your wax, and to do this you want some kind of a tall stove, with a top that will lift off. Such a one as you can select out of a pile of old iron, or a second hand one bought at the stove stores, will probably do as well as any, for it will very soon in all probability be covered with wax. Get a tinsmith to make a boiler that will set down into this stove as far as may be and still allow of building a fire under it; it will rise some distance above the stove, for we want it about 20 inches high. Inside this boiler, is to be another of such size as to allow of from ½, to 1 inch space between the two, precisely as we make a queen nursery; and as this inner boiler is to hold the wax, it must be at least 13 inches wide, if we wish to make sheets 12 inches in width.



The diagram will make all plain, when we mention that the dotted lines are partitions of perforated tin, reaching nearly to the bottom of the wax boiler; these are for keeping lumps of wax, from getting in the way of the dipping plates which are immersed in the central apartment A, while the lumps are fed into the side apartments B. The boiler A, B, is made so that it can be at any time lifted out of the outer one holding the water, and we can have an extra inside for white wax if we choose.

The dipping plates are made of galvanized iron, about the thickness of a silver dime; they should be 12½ inches wide, by 21 long; for making sheets for the L. frame only, plates 9 inches wide will answer, for we need sheets of finished fdn., 8⅝x16¾. These plates need a handle, and this is made of a round stick ¾ in diameter by 8 inches long, with a groove sawed in one side to allow it to be slipped over the top of the plate, where it may be secured, by a strap of tin around each end soldered to the plate.

Fill the space between the boilers with water, put your wax in the central one, and build a slow fire in your stove. Set a tub of water on a box, as near your boiler as you can well get it. Immerse the plates in the water, and when you commence, you will probably have to rub them with a little soap to make the water adhere. If the water is cold, your plate is ready to be dipped in the melted wax and instantly raised again, as soon as it sets, which you will see by its appearance; dip it again, and so on until the wax surface is as thick as a piece of paste board. Now you will never get this off in a nice sheet unless you go to work just right. Dip it in the tub of water, until it is just cold enough to be tough, like leather; if too cold, it will be brittle, and if too warm, it will stick; but when just right it will come off easily and quickly. Another thing, you must not have your wax too hot; if it is, it will give but very thin sheets, and these will curl and crack; it should, after being all melted, be allowed to cool until almost ready to solidify on the top. It has been often suggested that we have a coal oil stove or lamp, that we may easily regulate the temperature, but we advise a wood fire, on account of cheapness. It must be borne in mind that dipping cold plates of metal into the wax constantly, cools it off rapidly, and as it at the same time heats the water in the tub, we shall very soon need a lump of ice in the water; and as fast as it melts, a new one must be furnished. Besides these cold plates, we are constantly putting into the apartments, pieces of cold wax, and when we are pushing all these operations along rapidly, considerable fuel is needed in our stove.

The operation of rolling the sheets, is very simple after you learn how, yet at first trial one might decide the wax would never come free from the rolls. When the machine is new, the wax must be carefully picked out of the grooves with a quill tooth pick (as anything harder might injure the rolls) as fast as any gets a lodgement, and if at any time there is trouble when the wax is at the proper temperature, it is probably from this cause. Before starting in the wax sheets, the rolls should be covered with a soapy lather by means of a brush and soap and water, and the dish that the lower roll runs in should contain thin soap suds. As soon as the edge gets through, it is to be picked up with the fingers, held between two pieces of wood, and drawn out as fast as the rolls are turned. Two hands are required to work to advantage. For cutting the sheets to the size desired, a pair of tinner's squaring shears, are the handiest thing we know of. They are operated by the foot, and the price is about $35. A common pair of shears will cut them neatly, if the blades are kept wet with the soap and water.

GLEANINGS IN BEE CULTURE.

Published Monthly,

A. I. ROOT.
EDITOR AND PROPRIETOR.

MEDINA, OHIO.

Terms: $1.00 Per Annum.
[Including Postage.]
For Club Rates see Last Page.

MEDINA, FEB. 1, 1877.

But whoso hearkeneth unto me shall dwell safely, and shall be quiet from fear of evil.—Prov. 1; 33.

◆

EVER so many friends are sure to write us for queens before any can be raised, almost every spring. Our friend Hale has an advertisement, that we think will just meet the wants of such.

◆

THANKS to the *Magazine* folks for a copy of Vol. 1, neatly bound. In looking over the back volumes of almost all the Journals, we are astonished to find them containing so much that is valuable. See price

THE *Bee World* has heretofore commenced its Volume in Dec., therefore the Nov. No., was No. 12. It was decided to commence the Vol. the first of Jan., as with the other Journals, consequently no No. was issued for Dec. 1876. Will subscribers please take notice?

◆

WE use a great many postage stamps in our business of sending goods by mail, and can use any quantity, and of any denomination. Perhaps the cheapest and safest way to send money by mail, is to get large stamps. Several dollars may be sent in 30c. stamps, and they occupy so little room that their presence would never be noticed in a letter even if anybody wanted them.

◆

IF you would care to know more about the way in which Moody induces inebriates, and those apparently lost to all impulses for good, to turn at once into earnest teachers in the cause of good morals and religion, you will likely be interested in a book called Best Thoughts and Discourses of D. L. Moody. We can mail it bound in purple and gold, for only 75 cts. Regular price $1,00. It includes an account of his late work in Chicago.

◆

BY using shafts of steel, we have succeeded in making fdn. machines so much lighter than our first ones, that we now offer the machine for 12 inch sheets, for an even $100., and that with a pair of 9 inch rolls, just right for L. frames, for an even $50. The 5 inch machines for $30, are models of nice workmanship, for so small an amount of money. Although we are not at present prepared to say whether 5 cells to the inch is better than 4⅘ or not, we are sure the bees will work nicely on either, and as the small cell machines are easier to make than the others, we shall make *all* that way unless otherwise ordered. Rolls for making drone cells, will be $3.00 extra for small machines, $10. extra for 12 inch machines.

◆

WHATEVER may have been Prof. Riley's mistakes about bees, he has certainly done a good work in studying up the habits of the potatoe beetle, as will be seen in his book, Potatoe Pests, given in our list this month. Our most enthusiastic bee-keepers, it would seem, have studied the habits of bees no more faithfully, than has he this enemy of the potatoe; and the way in which he follows it through the stages of egg, larvæ, and so on, until we have a perfect insect ready to lay eggs, really reminds us of Doolittle and his figures on prolific queens. He is so thoroughly posted on the most successful plans of warfare, that one can readily imagine that article about poisoning honey bees because they ate the fruit, was written while he was in the "fighting mood" toward the Colorado beetle. This reminds us that since we have all become tranquil, it may be safe to say that

BEES DO EAT GRAPES, AT TIMES.

Our neighbor White of Chatham, this Co., had his vines entirely stripped one season by his Italians, and our own last season for the first time, started on the grapes right over their hives, and for about 3 days, threatened to take them all; but a sudden secretion of honey in the flowers, induced them to leave the grapes before much damage was done. The idea that bees cannot bite through the skins of fruit, is ridiculous when we see them biting into the heavy strong cloth of our quilts, and strong stout paper, yet we think it is very seldom, that they take the trouble to puncture whole fruit. We mail the bookfor 50c.

FRAMES OF SECTIONS; LARGE VERSUS SMALL.

I AM now making my hives for next season's increase and frames for surplus honey, and as I have an arrangement of my own I would like to know what you think of it. The hive proper, or brood chamber holds 12 frames about 11x11 inches, the hive cover has a space of six inches over the frames, to be used for packing in winter; this space is to be occupied in the honey season by 3 boxes, without tops or bottoms, placed crosswise the hive, and each box to be filled with close fitting frames for the surplus honey. My ideas are, first, to get the bees working in one or more of these boxes by giving them fdn. or empty comb or even partly filled comb from the body of the hive then start them to filling other sections or boxes by taking from partly filled ones. By this plan a full box need never be taken off and an empty one put on, but one or more filled frames can be taken out at a time and replaced with empty frames. Will it work?

A. A. FRADENBURG, Cleveland, Ohio.

To be sure your plan will work, and is precisely the plan we have adopted, except that you have to handle all these little frames separately, while we lift a frame of 8 of them at once, or a whole story of 56; if the whole 56 are filled with honey, it is rather heavy lifting, but if they are only partly filled, or if they should happen to be entirely empty when the season closes—as *may* happen, you should all bear in mind—it will be found quite a relief, to be able to lift off the upper story with the entire set of boxes, without any fixing or fussing. Again, according to Doolittle, we should extract all the honey in the fall, before putting the partly filled sections away for winter, and with the whole 8 in a regular full sized frame, we can uncap and extract all at once. You who think it is an easy task to perform all these operations on 50 or 60 small frames, in place of having them compactly in 7 or 8 large ones, or even all in one whole upper story, had better give it as fair a trial as have we during the past season. You will all learn it by experience, but it may be worth something to be warned before you have made up many hives on a wrong principle. Once more, the bees will cover the bottom bars to your small frames with propolis, which very much injures their appearance and sale.

SIMPLICITY BEE HIVES.

MUCH has been said of the importance of having all hives and frames exactly alike; notwithstanding, *we* have never succeeded in having them as exact as we would like. Last season, we made a set of gauges for each of the 6 frames in our list of diagrams, and have succeeded in getting the *frames* pretty exact. We have just now, had made a pair of frames of ½ inch square iron, that exactly fits over a hive that is just right. One of these frames is shown leaning against the central hive in the engraving on our cover. The boards are cut as shown in the figure, 5 being one of the ends, and 4 a side; the corners are nailed as shown at 9. Now to nail a hive, we lay one of the square frames on the bench, stand the four boards up inside it, slip the other hoop over the top, and the hive is held exactly square while being nailed. It is very clear that if the boards fill the frames, your hives will all be exactly of a size. If you can not make your saws cut all boards precisely of the same size, make the pieces a trifle large, and then dress the ends with a very sharp smooth plane until they fit nicely inside the iron frames. By this means, you may almost defy the stubbornness of boards that will twist and warp. You have nothing now to fear in the way of outside dimensions, but if your lumber is not perfectly seasoned, the boards may shrink and bring the frames a little nearer the bottom board; to prevent this, have extra well seasoned lumber if you can, but if you can not, make the stuff a little wide. This leaves the way open for inaccuracy, we know, but what else can we do? It will be observed we have cut places for hand holes in both the sides and ends, and when you once get at it, it is a very simple matter. If you take two shingles and lay them together with the thick ends opposite ways and then cut a pair of washers out of both, it is plain that a saw screwed between these, will have a wabbling motion. Well, with the shingles, we shall not have wabble enough, so we will make some wedges on the same plan, for we want the saw to cut a slot about ⅝ wide. Throw the table of your saw over back, or take it clear off, and put on a temporary one instead. While we think of it, it may be well to have these temporary table tops for various purposes, such as dovetailing for sections, etc., and the advantage of them is that they are always exactly adjusted when screwed to the frame that holds the saw. The pieces that compose the hive are to be rested against a strip at one end, while the other is let down gradually on the saw, and if the speed is high enough a very pretty smooth slot is cut.

No. 3 shows a two story hive with frames of sections above; No. 1, a single story with frames of sections on each side of the brood combs; No. 2, the same with the entrance turned forward and the sawdust heaped about it. No. 3, shows how the entrance is made by pushing the hive forward so as to project over the bottom board. The plan of enlarging and contracting the entrance with sawdust we like best of any we have tried. We also prefer sawdust to any kind of alighting board. It keeps down weeds, is readily adjusted, looks neat, and does not warp and curl up under the influence of sun and rain, as does any kind of a board fixing; when first put down, it may blow about some, but after a few days of sun and rain it bakes over the top, and forms the very best foot-hold for heavily laden bees, that can possibly be imagined. Other kinds of shade have been advised and used, but we find nothing so efficient and profitable as the grape vines. If the vines are propagated as we directed in Vol. II, it is very little trouble, and one vine will increase fully as fast as your bees increase to need them.

The chaff cushion and manner of making, is shown in No. 6, and the cushion or quilt at No. 7, where it is tacked in the cover; this may be done without trouble, where we use the sheet of duck, No. 8, to keep the bees from biting or propolizing the quilt. We now make these sheets of duck, with a cord of candle wicking run in a large hem all round the outer edge, for unless we do this, the bees will crowd out past the edge, so that it may be quite difficult at times to get them out of the way before shutting the cover down. We fasten the quilt in the cover, by 8 tacks around the edges; this allows it to drop close to the duck when the cover is shut down. No. 10, shows a sheet of fdn. with a folded strip of tin at its upper edge. This strip may be inserted in the frame as at 11, by sliding one end in first, just as we put in the usual wooden comb guide, entirely getting rid of melted wax, and the sheets of fdn. can be shipped with the frames, and then put in place after they are received. No. 12, is the 8 sections in place in the wide frame, filled with sheets of fdn., and No. 13, the same with the tin separators in place, on one side of each frame of sections. No. 14, is a frame of fancy sections, to be used for parties and weddings.

A FEW THOUGHTS WHICH PRESENT THEMSELVES ON READING JAN. NO.

CHAFF AS A REMEDY FOR SPRING DWINDLING.

But, friend Townley, in order to have the "spring fussing" fairly tested we would make this amendment to your article on 5th page; after selecting three colonies to pack with chaff and the three to go without chaff, select three more equal in all respects to the first, and pack them with chaff the same as the first three, only have it so that you can spread the brood, contract it it with a division board if necessary, etc, try the experiment fairly, and if the last three do not go ahead of any of the others and you do not decide that a judicious spreading of the brood *does* pay, "your experience will be different from what mine has been."

DRONE COMB, HOW TO GET IT.

Friend Stanhope, on page 13, talks to the point; and when we hear a person advising making new swarms by taking a frame from several hives, thereby making a full colony at once, and asserting that taking a full frame from a populous stock and putting an empty frame in its place does not injure them in the least, we always set them down as not being so familiar with the inside of a bee hive as they are with writing theory for publication.

If any one will guarentee ⅔ of the combs built under such circumstances to be worker comb, I will become a convert to artificial swarming. In all my experiments I never got one square inch of worker comb built with such conditions. Now friend Joiner, page 5, have you ever tried the above for getting comb for sections. In early spring put a division board in place of one or two frames and when apples and dandelions blossom take them out and put empty frames in the brood nest and see if you can't get all the starters you want, and if you get all worker comb built in populous colonies, Friend Stanhope and myself want to engage some queens of you.

270,000 BEES IN 3 MONTHS.

But, friend Novice, it is *not* Doolittle's theory that 270,000 bees are raised in three months. We wanted you to reconcile friend Cook's statement. We will give facts, no *theory* about it. Our 9 Gallup frames give us about 800 square inches of comb kept full of brood in all stages (not eggs) for two or more months. This gives us 40,000 workers every 21 days, and as they live 45 days the queen gets 2 1-7 generations on the stage of action to where one dies off. So we have 2 1-7 times 40,000 in a good colony the middle of July, or about 86,000 providing they do not swarm.

BROOD-REARING AS EARLY AS CHRISTMAS.

As regards queens' commencing to lay about Christmas, we will say that in the winters of 1872-3 and 1873-4 we had the last of Jan. on an average, 75 square inches of brood in all stages, with young bees just hatched quite plenty, and we have found but few stocks since we kept bees that did not have brood by the middle of Jan.

CLOSING ENTRANCES IN WINTER.

Friend Hill, page 26. We have always made a practice as soon as cold weather comes of shutting up the hives tight at the bottom (just as tight as we could make them) with no entrance anywhere, and we never had any worry themselves to death. Bees do not want an entrance unless they can fly, and in that case they will go in and out at any hole they can find, no matter where it is. Bees can get all the air they want through the quilt and straw mat or chaff packing and an entrance only causes a draught through the hive.

TURNING THE COMBS, FOR WINTERING, IN BROAD HIVES.

Novice has just put an idea in our heads, and for fear he will tell it as his own we will tell it now and so get the start of him. We never have fallen in love with this chaff packing as given by Townley, Moore and others, on account of it's taking so much lumber to make those large boxes which are nothing but a nuisance in summer. But to the idea; 5 Gallup frames well filled with honey will winter a swarm of bees just as well as 9. Now take out 4, of the 9, that have the least honey in them and turn the other 5 so they will run the other way of the hive by laying 2½ inch sticks on the rabbets to hang the frames on. This will give you 3½ inches at each end of the frames and 2¼ at each side. Make cushions to fill these spaces, put your quilt over the frames, pack the cap with straw or use a cushion, and all you have to store away is just the cushions, and you have your bees put in just as warm a bed as you could ask for. We are speaking of a Standard Gallup hive.

STARTERS OF DRONE COMB, HOW TO GET THE LARVAE OUT.

We are asked how we get larvæ out of drone comb, as we mention on page 123 Vol. II, that in order to get worker comb built we left drone comb in till larvæ hatched. Larvæ that is not over three days old will do no harm as the bees will clean it all out after it has been left out of the hive until it dies, and we never calculate to let it get older than that. Novice has made our advertisement in the last two numbers, read Standard Gallup hive with 21 boxes and cases all complete for 25c. Our usual price is $3.25. As we have paid for advertising, please correct in next. G. M. Doolittle, Borodino, N. Y.

P. S. We make a practice when snow is deep and there comes a day warm enough for bees to fly, of taking off the cap and turning up one corner of the quilt thereby letting them fly from the top of the hive instead of the entrance. G. M. D.

If we are correct, Townley referred only to chaff packing before the first of May, and we hardly think even you friend D., would advise spreading the brood before that time. Perhaps a good queen might produce 86,000 bees in 3 months, but before basing our calculations on that number, had we not better see how many of us have queens that will do it during the coming season?

Turning combs about, where the hive is wider than the length of the frame, we think can not fail to be an excellent idea, but with the L. hives in general use, it can not be done. With the Gallup and Am. frames, it is very easy, but requires considerable time and fussing. Several have recently struck on the idea, and one friend sends us a diagram of the plan. When we can determine whether the chaff is really objectionable for summer, we can decide whether a hive may not be built so the bees will at all times be fixed for winter with no other precaution than seeing that they have ample stores.

We like the idea of closing the entrances in very severe weather, were it not that one might neglect to open them, or be away when a fine day came; then there would be mischief, and we feel the same about taking off the covers to let the bees fly. If we can not have a hive—and bees too—that will take care of themselves at least a *few* days in the year we think it is really too bad. Our chaff hives and the old Quinby hive, seem all right, tho' they do not get a bit of care, and we think will need none before May.

We have changed the reading of our address labels, making them show the last number you are to get. For instance, Dec. '77 implies that you have paid up to and including that number, and no farther. Please examine the labels, and see if they tell correctly; if we sometimes make a mistake, please don't get cross, and think we did it on purpose.

Heads of Grain,

From Different Fields.

WILL IT PAY TO BUY AN EXTRACTOR?

I HAVE 9 colonies of bees all in frame hives. If I get them wintered safely I would like to have an extractor; will it pay to send for one for that number? I made 2 colonies from one last summer, I was not bothered with swarming.

N. M. BLOSSER, North Lima, Ohio.

If you can sell extracted honey for 15c per lb., an extractor will pay average seasons, with one colony only. If comb honey will sell more readily at 25c, perhaps you will do as well to get the fdn., and the new section boxes. You can secure a crop of extracted honey easier, a much cheaper hive will answer, and a beginner will get a crop where he would fail entirely with comb honey; he will in fact find it so easy, he will be very apt to starve his bees until he learns better. As to whether it will pay, depends very much on the home market you succeed in building up.

The past season has been my first in bee-keeping. I think I have done well. I commenced with 8 swarms last spring and transferred them with no trouble into movable comb hives, size 12x12x16 inside, frame 14⅝x10¾ inside measure. Spring cold and backward; no swarms until July 5th. July 1st, I had 4 strong and 4 weak stocks. Hived my four first swarms and put back all the rest by hiving in an old box by the side of the old hive and in from 2 to 4 days cutting out queen cells from old hive and shaking the bees back. I had no trouble from swarms coming out that had been once put back in this way. I got from the 8 swarms (and two of them did nothing) the 4 swarms spoken of above and about 300 lbs. of box honey. Considering that it was nearly all taken from buckwheat, I think they did well. One swarm that had to be fed, up to June 25th, gave 90 lbs. of box honey; another with its swarm made 140 lbs. of box honey. I am using Mr. Isham's glass boxes and think them the best I have seen. Our honey plants are fruit blossoms, locust, white clover, basswood and buckwheat. We have also a large variety of fall flowers, and in fact almost every thing in its season. This has been a poor season and bees that have had no care have done little. GEO. W. STANLEY.

Wyoming, N. Y. Jan. 1st. 1877.

Is there not a little inconsistence somewhere friend S., in calling it a poor season, after such a report from a *novice.*

I would not part with either of my volumes from vol. 1st. to the present for four times the cost. Last spring I started with 13 colonies; have 26 now and have taken 1200 lbs. of honey. Some of my neighbors who purchased hives of me desired my aid in taking care of theirs, 13 in all; we have increased them to 26 colonies and taken 800 lbs. making in all, from 26 hives, 52 and one ton of honey. This is a hard climate for bees, so elevated and changeable among the Rocky mountains. Foul brood has destroyed so many bees some have become discouraged. One of our apiarians is trying to overcome the disease by often changing the bees into new hives and making new combs and brood. What do you think of the plan?

E. STEVENSON, Salt Lake City, Utah, Dec. 28th, 1876.

I have taken 12 stands of bees on shares for a term of 3 years. I took charge of them in July, moved them 10 miles, losing one; smothered them before traveling 5 miles. I have now 20 even, all thrifty stands in the Langstroth hive. The stock is from yours, but is badly mixed. Mr. Wilson received one stand of Italians from you, and he never increased them but the whole stock is improved, I go barefaced among my bees and love the work.

A. H. BERT, Mt. Erie, Ill. Jan. 1st, 1877.

I am a beginner, starting in the spring with one colony in a box hive. They sent out a swarm in June, which for want of frames I put in a common box. They gave me one cap and part of another, and were ready for winter with their hive two-thirds full of honey. I purchased 4 swarms, made movable frames, and with the swarms from these, and bees given me to stock neuclei, with seven colonies that I "drove" for a "bee man" who wanted honey, I have commenced the winter with eleven stocks in ten hives; nine of them in a long box packed with chaff. In the spring, you can tell better in which department to place me. I have never lost a queen by introducing, though I have introduced them in every colony, also have added bees to almost all my swarms.

FRAMES VERSUS BOX HIVES.

I write in behalf of a bee-keeping friend of mine, who has about 75 colonies in boxes and gums of all imaginable kinds, who has claimed the movable frame useless, and that he could manipulate his boxes and gums quicker than any man could frames and with better results for any object desired, such as taking out queens, making new swarms etc. He was at my place the day after I received the fdn., and saw it after it had been 12 hours in the hive, and the bees were working it. He also saw the metal rabbets, frame, honey knife and other samples; the samples were received in good order except the thermometer which remains in *statu quo* and refuses to be comforted with either heat or cold. This man saw my extractor in successful operation, and now he wishes me to learn your price for metal cornered frames, 500 or more. He thinks he will transfer about 50 colonies in the spring and he will be successful, as he understands their "little dispositions" better than any one I ever saw handle bees.

J. E. DART, Farmer City, Dec. 28th, 1876.

FOUNDATION REPORT.

Since you asked in GLEANINGS for reports from those having used fdn., I will say I had some from T. G. Newman. Twelve sheets 12x16 inches for two pounds, with which I experimented in various ways. In brood chamber I filled frames to within about 1 inch of bottom bar and it would sag and break down as soon as the bees put a little honey in it. They commenced work on them in two hours after they were put in the hives. The only way I succeeded was with sectional frames made on the plan of yours, 9x5 inches filled to within ½ inch of bottom bar and fastened at the top with wax. Even then they sagged and stretched. These were made by C. O. Perrine, of Chicago, if I am not mistaken. I also tried the plain wax sheets having every alternate frame natural comb starter which they filled and capped without touching the wax sheets. JAS. E. FEHR.

Dakota, Ills., Dec. 19th, 1876.

I used some of your sections last summer, liked them very much. I have one objection to them, they have so many pieces. Could you not make them with four pieces, instead of 6, having the upright pieces solid? I think they would be much better. I am making preparations to run 10 swarms next season, mostly for extracted honey.

W. H. KERR, Waynetown, Ind. Dec. 30th, 1876.

We now make them exactly as you suggest.

I have increased from 20 to 47 in the last season, all in good condition. Greatest surplus from one hive 80 lbs. The first swarms gave most of my honey, the old hive having the swarming fever so badly worked little.

SETH DEVINE, Kingsbury, N. Y. Dec. 30th, 1876.

HOUSE APIARY.

After a trial of a year or more do you find the house apiary better for box and extracted honey, or either, than your "yard apiary?" Or in other words if you had none, and knew as much as you do about them, would you build one? Wintering not to be considered, as that is no object here. T. B. PARKER.

Goldsboro, N. C. Dec. 16th, 1876.

For 50 hives or more I would assuredly build a house apiary. The one item of having your honey and implements all housed at all times, and without the toilsome labor of taking so many steps, would be reason enough. This of course refers to keeping bees for profit, or where the amount of money to be made with the least labor possible, is the desideratum. To those who keep a few bees for the benefit of the open air exercise, or who simply wish to raise the honey needed in their own family, I think I would advise the Lawn or Chaff hive, or the Simplicity, and the grape vines. There are now a great many house apiaries being tried, and perhaps it will be as well to hold on a little before building very many. When those who make bees a success, decide to use house apiaries, it will be ample time for beginners to follow. Another thing; there have been gross misstatements made in regard to the expense of such structures, by those having patents. Nothing in the way of expense is saved in the house, except the body of the hive and the cover, for the frames, sections, and chaff quilts are needed all the same. It would be a much easier matter to make 50 painted Simplicity hives for $50.00 than to make a house apiary for an equal number, for $100. Will those who have built them, tell us if we are not right?

I put 52 colonies into winter quarters: about half in double hives packed with chaff, (have generally used cut straw) the balance in single hives with straw in cap. I use quilts filled with cotton over frames and have been very successful wintering in that way. This season was rather poor until buckwheat bloomed when the bees did very well. Bee-keeping in this vicinity is rather in the back ground, a great many use the box hive and black bees.

· JAMES P. STERRITH, Kilgore, Pa. Dec. 13th, 1876.

HONEY, BUILDING UP A HOME MARKET FOR.

I have just read the statement of J. A. Buchanan Dec. GLEANINGS page 305 and agree with him. When I commenced here which was but a few years ago, there was not 50 lbs. of honey consumed in the place. This year I harvested about 2500 lbs. and sold all of it at 20 and 25c. per lb. *home market.* T. J, DODDS.

Le clare, Scott Co. Iowa, Dec. 15th 1876.

INTRODUCING QUEENS.

I received 3 one dollar queens of J. Oatman last July, they were beautiful yellow pets and I introduced them in the honey boxes according to Mr. Cortland Newton in June No. of GLEANINGS. They did exceedingly well. No. 3 came out 17 days after with a fine swarm and did finely. B. G.

Monticello, Ind., Dec. 27th, 1876.

We have had a very hard season for bees in this region, the drouth was so severe from the 20th of June till about the middle of July that my black bees would have starved if I had not fed them.

ITALIAN VERSUS BLACK BEES.

I had but one swarm of Italians, they gathered enough honey from a weed that grows plentifully here to keep brood rearing lively. I watched many hours but could not find a black bee upon it. I think it a member of the mint family. The bloom is similar to catmint. On the last of July the grasshoppers came in countless millions. In 15 minutes after they commenced falling, my hives were covered with scroll work that left your Lawn hive in the shade: they destroyed our crops to such an extent that some did not harvest at all; most of us got enough for our bread and some seed. For about two weeks the bees had nothing to work on but vines, and they *did* carry pollen in large quantities. I counted 7 bees loading from a single flower. They gathered pollen from the centre of the flower to the ragged edge. My apiary is on the prairie. Basswood 1½ miles away; have no clover to amount to anything yet the bees usually gather some honey from May till October. We have a flower upon which the bees work nicely before the snow drifts are gone in spring.

BEES ON THE PRAIRIE.

A life on the prairie is the life for me,
Where the breezes of Heaven can wander so free;
The cold blast of winter is worthy a song,
And I gaze on the snow as it's passing along.

And when in spring time the breezes of May
Are melting the snow drifts so swiftly away,
I'll listen awhile to the bees' merry hum,
As returning with nectar they meet me at home.

And when the wild rose is opening its bloom,
And the prairie is covered with flowers in June,
I sit in the shade of my own nurtured trees,
And watch until evening the flight of the bees.

I have 17 stocks now in my cellar, 13 of which are Italians, all from my River Styx queen. Two of them mated with black drones I think.

AGE OF WORKERS.

One year ago the 20th day of August I gave my River Styx queen four combs of black hatching brood; I saw the last black bees the 14th day of June. Now supposing there were eggs, the worker bees were 8 months old. I use the American style of Langstroth frame 12x12. J. E. DART.

Farmer City, Ills., Dec. 19th, 1876.

WINTER BEE HOUSES, KEEPING THEM COOL.

In the warm days last spring before it was time to set bees out, mine became uneasy in the house, wanted to come out and fly (although it was pitch dark) and made an awful noise. I sprinkled a handful of fine snow about the entrance of each hive and in half an hour they were quiet as mice—not a buzz from any hive. I tried it once afterward with the same success. HENRY DANIELS.

Plainfield, N. H., Dec. 25th, 1876.

The idea is very good, although the plan is considerable trouble. A good cellar will be cool enough without the snow.

I have always been the bees' admirer but never was in circumstances to give them any personal attention until last season, when a few colonies gave me over one thousand per cent. profit. P. G. CARTER.

Lawrence, Kas, Dec. 20th, 1876.

The honey season with us has been fair; had 17 stocks in spring which increased to 35, gave 500 lbs. of extracted and 150 of cap honey. Sold it in one lot at 20 cts. I have had bees 20 years but have done nothing with them until the last season. You can put me down in "Blasted Hopes" if you please, and I think if you should get a report from all bee-keepers you would have a full column under that head.

W. E. CLARK, Oriskany, N. Y., Dec. 22d, 1875.

Last fall I purchased a dozen stocks of black bees in box hives and placed them side by side in a long shed, then packed them all around with straw. Have a board hinged in front to let down when warm days come. There is no upward ventilation except the two holes for honey boxes with quilt over them. Will it pay to cut out top of brood chamber and then cover with cushions? It seems to me they would work more readily in the section boxes if treated so. I do not wish to transfer until I secure a swarm from each one. I have a stock that weighs nearly 100 lbs. gross, what shall I do with *it* when I transfer. What is the color of the eggs of the moth miller?

G. S. Graff, Omaha, Nebraska.

HONEY, HOW TO GET FROM A BOX HIVE WITHOUT TRANSFERRING.

It will certainly pay to get the sections down as near the brood as we can, and if we were not ready to transfer, we would take the whole top off the box hive, and nail on strips, so as to fit an upper story on it. A one story Simplicity will do very well, and you can then get either extracted or comb honey as you choose; should the queen prefer to go above, as she often does, you will get your transferring so far along. The 100 lb. stock, will be just the one for such an experiment, and we think you might manage to get most of the honey up into the frame hive.

EGGS OF THE MOTH.

The eggs of the moth are very small, scarcely visible unless we look closely, are perfectly round, and nearly white. In Langstroth's book we get a very good idea of them from illustrations, and description.

PREMIUMS FOR THE LARGEST CLUB, ETC.

Dr. J. P. H. Brown offers to present to the person sending the greatest number of subscribers to *Gleanings*, between the first of February and the first of July, a *tested queen* from *imported mother*. Queen to be sent upon presentation of certificate from the publisher.

Dr. J. P. H. Brown, Augusta, Ga.

Many thanks friend B., but at the risk of being considered ungrateful for such kindnesses, we would beg to enter a little protest. Our good friend Nellis has sent us the largest club by considerable, but as he has paid us 60c. each, and received $1.00—or whatever amount he thinks proper above the 60c.—he has had his pay for such service already. Why should you make him a present for so doing, more than for selling the large number of dollar queens, which he did last season? Both were the means of doing a public good, and he received his pay. We are *very* anxious, to have our list of subscribers increased, but we do want to have it done in a healthful way. The *Am. Agriculturist* at one time run their list of subscribers up to 150.000 by giving presents and the like, but as the greater part subscribed for the sake of getting the presents without caring particularly for the paper, they would not renew the next year, without similar "boosting." The result was that the list soon went down to about its usual number, and if we have made no mistake the great list never paid expenses. Shall we not rather take papers for their own intrinsic merit, and not for the presents, just as we buy a lb. of nails? The *nails* we want to use.

We prefer to pay every one who sends us a subscriber, because we like every thing straightened up as we go along, that we may use our friends all alike without any hard feelings. If you do us a favor, and take no pay, we feel we ought to remember it, yet how can we do so among so many? If you send us 5 names at $1. each, we justly owe you $1.25; yet if you say you do not want it, and ask a small favor a few weeks after, please do not feel unkind if we charge you full retail price, for we have no way in the world to keep track of the matter unless you mention it. Our letters are all filed away alphabetically, yet it is often worth nearly a dollar to us, to find one received 6 months before. When we do a person a favor, is it not human to expect a similar one in return, sometime? Beware how you accept money without a note, without interest, or how you allow people to undersign you, unless you wish to do them a similar favor when they call upon you.

SIDE AND TOP STORING BOXES, AND WHY DO BEES BUILD COMB UPWARD?

I commenced the season with 4 good colonies. Increased to 18 and doubled back to 12. Italianized 4, 6 are hybrids, and 2 are blacks. I am going to purchase an imported queen in the spring. My bees are not willing enough to work in boxes, to please me; when they do they build upward; what makes them do this? Will bees work in side boxes better than on top of hives? I am wintering all my bees on summer stand packed with chaff on top; some with chaff on both sides of hive.

APIARY.

	Dr.
To hives, oil, paint, sugar and candy, account book, and queens	$30 00
	Cr.
By 12 colonies of bees@$7,00 per colony	$84 00
" 240 lbs. of honey@25c	60 00
" 9 bee hives	18 00
Total credit	$162 00
Net gain (not counting labor)	132 00

I can introduce queens, make artificial swarms rear queens, do anything that pertains to bee culture, and will be but 18 years old in January, 1877.

Hardin Haines, Vermont, Ills., Dec. 12th, '76.

Your bees build upward because they have no starters of natural comb, or fdn., because your boxes are not close and warm, and perhaps because you open a passage into too many of them to start with. With our new arrangement of sections in the frames, you can give them 8 sections to commence on even in the lower story, and you and everybody else can test the vexed question as to whether side storing boxes are better than top storing, to their entire satisfaction, for you can place them in either position in a twinkling. Who among our readers can make a better report before they are 18 years old?

How do they generally send their $1.00 queens, by mail or express? And in what kind of a cage? And do you know how many one can sell in a season?

Albert Potter, Eureka, Wis. Jan. 10th, 1877.

We believe they are sent by mail unless quite a number are to go to one person. The cages used are such as we offer on our price list, or those made by boring into a block of wood, and covering the opening with wire cloth. A piece of sponge saturated with honey, seems to be the safest way of sending their food. Some of our neighbors have sold 100 or more in a season. They are now sold annually by the thousand, and are proving a great blessing.

SUGAR FOR WINTERING.

Oh! yes, here we are, but not among "Blasted Hopes" as you probably may think, although bee business seemed like very poor business when we last wrote in 1875, that out of 30 colonies only 4 had enough honey to winter and the remaining scarcely any. After feeding two barrels of sugar (A coffee) they were put into winter quarters in pretty good condition, and wintered with very little loss. In the past season we have more than trebled our money expended and doubled our stock; have 50 colonies all in good condition and probably could have realized more if we could have had time to devote to them. But after Father's death we had to care for the farm of 250 acres, leaving us little time to devote to the bees; but being greatly encouraged, think we will devote more time to them in the future. WARDELL BROS.

Uhrichsville, Ohio, Jan. 14th, 1877.

SEPARATORS, AND NO SEPARATORS.

Our bees gave us about 100 lbs. of honey to the hive last season, mostly extracted, and one increase from two. They appear to be all sound now. We got about half the sections with the tin separators, filled during the season. No, not filled, but with some lean comb honey in them, that looked as poor as Job's turkey that had to lean against the fence to gobble, as we boys used to say. The separators are separated and in the scrap box. They may do for box honey to glass but not for sections *for us.* They take up too much space. J. J. WHITSON.

Valley Mills, Ind., Jan. 15th, 1877.

The matter of separators or no separators, is destined it seems to be another of the vexed questions. Doolittle, Moore, and others who raise much comb honey consider them indispensable, and they certainly are if we are going to glass the honey after the sections are filled. If the honey is to be sold near home in our own neighboring towns, or to our neighbors, there will probably be no need of the separators, unless we find it will pay to have all exactly of a size and thickness, even at the expense of having a little less of it. The fdn. makes the cakes very even without any separator, yet without them there will be bulges in one and corresponding depressions in its neighbor. We at one time decided as has friend W., that we wanted no more of the "lean" ones, but after the "fat" ones bumped each other, and got to leaking, we began to think we would rather have the former, and have all exactly alike, with no protuberances to get broken off and set dripping.

I live in a very poor honey district; had 14 old stocks and got but one swarm. Drouth very long and severe; only took 200 lbs. box honey—L. hive. I winter on summer stand—no packing, no upward ventilation—come out all right in the spring. I have given no upward ventilation for 10 years or more. I like it by far the best. I give plenty of lower ventilation—have hole cut in the centre of bottom board 2x4 inches, covered with wire cloth—fly hole 1 inch by ⅜. H. THOMAS.

Glen Moore, Pa., Dec. 26th, '76.

POISONING BEES BY CHEAP MOLASSES.

I want to know if candy bought from the store will do to feed bees, or will the flavoring that is in it be injurious to them? Some two or three years ago I fed a small quantity of black molasses which ended feeding, bees and all, for it killed them; I would advise your readers against feeding molasses. It seems that wintering is a great hobby with you northern bee-keepers and I want to know if they will winter as well in frame as in box hives; if they will, we don't ask wintering any odds, for I never knew a colony of bees to freeze to death here. Some people are so careless that they will leave the lid all warped and twisted so that you could almost run your hand in and they seem to come out as strong as any in the spring. How do you keep the ants away from your hives? or don't they ever bother you? They have troubled me more this fall than ever before. There is also a bird here that we call the Bee Martin which catches thousands of our bees in spring and summer. But the worst enemies we have are worms and starvation. Bee-keeping is a new thing here and if I can't induce people to take GLEANINGS or learn something about bees, that Mitchell and his gang will soon stock our country with their humbug hives and moth traps. As the neighbors' boys call me king bee, I suppose that name will do here. KING BEE.

We were so careless as to lose the address of the above, yet the importance of the item in regard to molasses, should be well understood. Cheap molasses amounts to the same thing as burnt sugar, and both are a sure poison, as we have mentioned heretofore. Frame hives properly prepared, we believe have all the advantages of any box hive. By all means use every aid to keep your neighbors so well informed that they may not be duped by swindlers. The flavoring in candy does no harm, more than to make it expensive.

I have taken 3600 lbs. of honey from 20 of my best hives and have sold it at an average price of 20c. per lb. I made very little box honey, it sold as low as 20c. per lb., and some at 12½c. per lb. That does not pay one for their labor. W. BENCE, Newberg, Ky. Dec. 29th, 1876.

And so extracted honey is still ahead, in some localities at least.

SECTION BOXES, BEST SIZE AND SHAPE.

You use, I see, 8 in a Langstroth frame. The frame being 2 inches wide and the sections 4¼ square. It seems to me these are rather small. Suppose you use 6 only, say nearly 5¾ inches long by 4¼.

A. FAHNESTOCK, Toledo, Ohio.

The matter has been often mentioned, was well considered, and we are prepared to furnish the oblong sections, when wanted. Our reasons for preferring the small ones are, a small package, seems in much the greatest demand, a square cake of honey is nicest to lay on a plate without getting over the sides, and it is better to have packages no larger than will be used at one ordinary meal. After a plate of butter or honey has been many times on the table, it becomes untidy in appearance; if small, it can all be used and the plate or dish cleaned with the rest of the dishes. If you were passing a market you would hand over 25c. at once for a nice cake of honey, when you would pass it by if it were a half dollar or even 35 or 40c.; this has been many times proven. Again, we always strive to have as few dimensions about hives as possible. If we cut all our stuff for sections of one length, we can have this exact much easier, than if we have the height one size and the width another. The difference in expense of the two sizes, is but 50c. per thousand.

STRAW MATS, AND AMPLE VENTILATION OF CELLARS.

We are having a very *extreme* winter, but owing to precautions taken have our yellow pets in nice shape, and 'tis a pleasure to know that notwithstanding the whistling of "old Boreas" outside, we *never* have had so few dead bees on our cellar bottoms, nor had them in a more contented shape. Perhaps the fact of our having made 200 straw mats last fall may have something to do with their condition, but *we* attribute it mainly to the *temperature* we maintain (38 to 40°—does not go above 40) and to the fact of frequent *airings* of our cellar. Every night when the outside temperature is 20° or over we throw open our outside cellar door and close it in the morning. By this process we not only regulate temperature but keep a constant supply of *fresh* air in our repositories, which experience teaches us is best to safely winter. Let a cold snap come to prevent our opening the cellar for 3 or 4 days—still keeping the temperature at the proper degree—and you would have a "big roar" among them. Go among them with a light at that time and you would be greeted by numbers of restless bees flying in your face and buzzing around the light. But let us open the door for a few hours, and mark the result among them with a dozen lights if you wish, leave the daylight streaming into their room and all is "quiet on the Potomac" not a bee stirring, and some of the stocks are *dead*, as far as sound from them is concerned. We have carefully noted these facts in our winter experiments and have become satisfied that *many* losses may be traced to the fact of crowding too many stocks into a room, and then poorly supplying them with the necessary elements to sustain life.

J. OATMAN & Co., Dundee, Ill. Jan. 13th, 1877.

Friend O. you are striking on another point on which Doctors disagree, for several have strongly objected to the disturbance caused by opening the doors thus in winter. Have you done the same in former seasons, and not had much trouble with "spring dwindling?" Would not a tube attached to your stove pipe, ventilate just as well, and be a great saving of time and trouble? Of course the mats are good, but are not chaff cushions cheaper, cleaner, and handier?

FERTILE WORKERS.

Please tell me how you find a fertile worker, to be replaced by a queen. I have had one in a hive which killed every queen introduced; I failed to find her and had to break the hive up and secure the combs. W. T. SEAL.

Chadds' Ford, Pa., Dec. 14th, 1876.

You do not need to find the fertile worker, and it would do very little good if you did, for others would take her place if you killed her, and in fact there are usually if not always, several workers, which do this kind of egg laying. The remedy and prevention, are one and the same; never allow a colony to be for one week without eggs and brood, under any circumstances, and if you are so careless as to get a case of the kind on your hands, go at once and give them as many combs of unsealed brood as they can cover; you can then introduce a queen in this, as well as to any other stock.

M. E. MCMASTER'S REPORT FOR 1876.

I took my 35 stands of bees through the winter of 1875-76 without loss, increased them during the season to 48 and took 5000 lbs. of extracted honey and 100 lbs. of comb. In all 5100 lbs. of first-class honey, besides leaving the bees plenty in the hives. Average number of lbs. to original stand over 145. Bees in box hives did but little in this part of Missouri, some giving no surplus whatever. My honey is nicely candied and sells as readily as honey in the comb. Have retailed about 200 lbs. and am trying to sell it all near home. I retail at 12½ cts., and wholesale at 11 cts. If desired I will give my *modus operandi* in selling honey and establishing honey markets, etc.

Shelbyville, Mo., Jan. 11th, 1877.

Let us have it by all means.

EXTRACTING, WHEN TO DO IT, TRIANGULAR COMB GUIDES, ETC.

Do you extract honey before the bees have swarmed? How often during one season should the honey be extracted from one hive? When does the extracting season end, if the bees are to be wintered on the summer stand? Is it ever safe to extract from first swarms if we want them to winter well? I use the Quinby hive and expect to use your comb foundations. Is it necessary to make the top of the frames triangular if I use the fdn.?

CHARLES W. WHITTINGTON.

Paddy's Mills, Va., Dec. 26th, 1876.

As we often receive questions like the above, it may be well to attempt an answer, even if it does seem like asking the same questions in regard to gathering hen's eggs—we gather them as long as the hens continue to lay. Briefly, we of course extract before swarming, for it is almost the only way to prevent swarming, and we extract as often as the hives are filled—sometimes as often as every third day, and again at intervals of two or three weeks. We prefer to use two story hives, and in that case we let them fill the lower story towards the last of the season, or even in the middle, and do all our extracting from the upper combs. In this case we of course extract all they put into the upper combs. A first swarm that did no more than to fill its combs once, we should regard as rather slow. The honey may be taken from them before the hive is half filled with comb, and they seem to get along just as well, with a good yield. We consider a triangular comb guide a waste of space inside of the hive, as well as a waste of lumber under any circumstances. More than that, the bees find it almost impossible to fasten their combs securely to such a top bar. It has for a long time, been pretty generally abandoned.

I have just received from Mr. L. C. Root, son-in-law of the greatly lamented M. Quinby, one of their improved smokers. I have now used one of these, which cost me only $1,50, two years. I consider it an invaluable aid in the operations of the apiary, and would not be without it at double the price. My old one is as good as new. The leather broke last fall, but 25 cents worth of material and an hour's work, made it as good as ever. Mr. Bingham of this state has two forms of smokers, essentially the same as the Quinby. They are of a still stronger material, and draft, but cost 50 cents more.

I wish especially Mr. Editor, to express regret that I stated in the "Manual of the Apiary" that this was patented by Mr. Quinby, the more as it was characteristic of this generous man, to give his inventions to the public, which practice I believe knew no exception. The excellence and cheapness of the Quinby smoker, I think leaves little to be desired.

A. J. COOK, Lansing, Mich., Jan. 20th, 1877.

There are quite a number of our friends, that we think would do well to follow our lamented friend's example, especially, as the greater part of them never realize a tenth part of the money, that they pay the Patent Office.

OPENING HIVES OFTEN, IS IT HARMFUL?

Your free and easy manner of speaking about *opening hives*, I think is liable to mislead the inexperienced. Some say, disturb the bees as little as possible; from my very limited experience I have found that opening a hive disconcerts the bees for several hours afterwards. Is it proper to open a hive as often as you please, for any purpose whatever? You speak of opening a hive to ascertain whether they are building straight comb or drone comb, to see if they have queen cells, have the swarming fever, to pick out worms, etc., etc. I wish for more definite instructions in this matter. Is it proper to open a hive once a day, once a week, month, or how often?

JAS. H. PARSONS, Franklin, N. Y., Jan. 5th, '77.

Some one said he could not dig his potatoes several feet away from the hives, his bees were so cross, and he could not comprehend that the same bees would allow their hive to be taken all in pieces and the combs scattered all about, without making a single hostile demonstration. The motion of hoeing, or chopping, or even driving nails with a hammer, seems to arouse their combative tendencies, especially if at a little distance from their hives; perhaps they think the blows are aimed at their unoffending selves. When we open a hive they look up to see what is going on, precisely as your horses and cattle put out their noses as you come near them; if they have seen you before and know by past experience that you have no purpose of vexing or harming them through carelessness, they soon resume their duties, undisturbed. Have young bees no opportunity of knowing you? Young bees seldom lead in an attack, and in a hive, a part take the lead, and the rest follow; therefore young bees will behave just as if they had had the experience of the older ones. During our experiments with fdn., we opened hives morning night and noon, and when friends were present, they were opened again, yet these colonies were the very best we had, and that for comb honey too. Fine theories about letting nature have her way may sound very well, but reports from practical men are all in favor of opening hives often *while the bees are getting honey*. We usually chose gentle stocks for our experiments, yet on one occasion it was convenient to use one of the very crossest hybrids, and for the first few days, we really thought we should have to use smoke; but after a short time they became accustomed to these intrusions, so much so that they were as peaceful as any in the apiary; this experiment has been verified in many instances. A question is asked on first page, we will answer here.

HANDLING BEES IN THE CELLAR.

Although this may be done at times without injury, we must consider it very injudicious. If you have weak stocks, give them plenty of food, and pack them in as small a compass as you can with chaff cushions, and then let them alone. To be sure they will come out if you open their hives, and to use smoke under such circumstances seems cruel and useless. If they must be examined, wait until a warm day, set them on their usual summer stands, and none will be lost, or seriously injured.

I Italianized one colony last September and will Italianize the rest next spring; cannot from experience tell which will be the best, but am so well pleased with my yellow pets, I shall try for more. Many have been to see them, and if I had queens I could sell almost any quantity of them.

J. L. MCDANIEL, Webbford P. O., N. C. Dec. 28, '76.

Why would not a hive made with double ends packed with chaff between, and chaff cushions at sides, answer instead of your chaff hive? W. G. PHELPS.

Milford, Del. Jan. 8th, 1876.

Such a hive would doubtless answer very well, but it would make the ordinary Simplicity much more complicated and expensive, and we are pretty confident we can make a very good wintering and springing hive, by the use of the chaff cushions, as it is. The matter is now being carefully tested.

PROPOLIS AND SIMPLICITY HIVES.

Won't the bees so fill up the space on the bottom of the front and back of your hive (inside) with propolis, that it will not fit on top of another hive after being in use for a short time? ERNEST SHUMAN.

Breckenridge, Mo. Jan. 8th, 1877.

They do fill up with propolis as you mention, to some extent, yet not so as to make any serious difficulty in setting old hives over others, even after they have been several seasons in use. We do not ordinarily require to set old hives over others, unless we have our bees die out badly. We have been accustomed to remove the upper story, frames and all, during the winter, putting them back again in the spring. Propolis has annoyed us very much by sticking to our fingers and clothes, but we do not remember that it ever came in the way of setting Simplicity hives over each other, more than to make them stick, as all upper stories do with heavy old stocks.

I will give you some of *my* gleanings; to begin, I have kept bees 57 years.

AMOUNT CONSUMED IN WINTER.

I have weighed bees in the middle of September and again the first of April and have found them from 9 to 23 lbs. lighter. I have doubled, trebled and quadrupled swarms in the fall often, and found them to do no better than just a fair swarm, although they will eat more than an ordinary swarm. One fall, I got four hives of bees, or rather the bees of four good swarms, put them with a fair swarm of my own, weighed them carefully in Sept. and then in April, and they had eaten just 23 lbs. of honey. An ordinary swarm at the same time ate as much.

MOVING BEES SHORT DISTANCES.

Early this fall I moved at least 1¼ miles and took some of my bees; they went back in great numbers. I brought away the rest when the weather was cool and I think scarcely any went back. When a boy (in Scotland) I gathered penny by penny and bought a second swarm of bees and as soon as I could gather another seven pence I bought a lb. of Muscovado sugar with it. It gave a swarm 28th of May, also a second and third. Thickness of syrup, three measures of sugar to one of water. That hive got a number of lbs. of sugar. Never saw a moth miller about a hive till I came to this country 31 years ago. If I had no queens before July, I would say so in advertisement. How soon could one get dollar queens from the south? JNO. DAWSON.

Pontiac, Mich. Jan. 6th, 1877.

Rather trying on bees, this protracted cold snap, but all right yet;—52 colonies in double walled hives, Langstroth—one of J. S. Hills students, you see. Success to him and to GLEANINGS. JONAS SCHOLL.

Lyons Station, Ind. Jan. 8th, 1877.

Our Homes.

HER WAYS ARE WAYS OF PLEASANTNESS, AND ALL HER PATHS ARE PEACE.—PROVERBS, 3 : 17.

SOME ladies were speaking of a town in our county where Sabbath breaking and intemperance prevailed to such an extent, that it was really alarming. I enquired a little and was told that matters had been growing worse for some years, and it really seemed nothing could be done. Was there no Sabbath school there, I enquired? There had been none for several years, and the nearest one was very fast falling away. This was at a general dinner table at a conference meeting. It was almost the first time I had attended such exercises and I had been announced to address the children that evening. I suggested that a Sabbath school be started in that very town, and that the power of kindness be tried with the people.

"And since you have advised such a measure, are not you just the one to do it?"

"I should like the work, above all things," was my reply, and almost before I knew it, in fact before I had stopped to count the cost, I had promised to try.

Evening came, and two ministers talked to the children, before my turn came; it was something I was quite unused to, and as I remarked the easy self-possessed way in which they spoke, I became more and more disturbed and nervous, and began to wonder how it came about that any one ever thought me capable of doing such work even tolerably. At last my name was called, and in my anxiety to do well before so large an audience I fear I tried to talk something as ministers talk to children, forgetting that God always wants just our own simple selves just as we are without a particle of any addition of any kind. The consequence was that I forgot nearly all I had proposed to say, and became so embarrassed and confused that even the points I had marked down on a bit of paper, became unintelligible in my worried and troubled state of mind. My mind kept running on the Sabbath school I had promised to open, and without proposing to do so, I again publicly committed myself, so that there really seemed no backing out.

I beg leave to digress a little here. When I first found myself in sympathy with the churches and Sabbath schools, I felt it a duty to publicly recall many things I had been living and teaching, and I asked for a few moments at one of our Sunday evening union meetings. During those first days of the new life, I had been learning to look for guidance in nearly every act in life, but in this case, strangely enough, I forgot the "paths" that were proving so peaceful, so far as to think I could write something "myself," that would be just the thing. Accordingly I "wrote," and went to meeting with the "precious paper" in my pocket. Almost as soon as I was seated, I began to feel that I had made a mistake. What I had written, was too much after the style of sermons, and would require the skill of a minister to bring out, even if it were worth bringing out at all.

"Get up and go out," whispered a voice. "If you are not present, no one will think but that you are sick, or something of the kind. I would not make a laughing stock of myself for anybody."

"Such refuges might have answered a few months ago," replies a quiet voice, "but now you are enlisted under other colors, and you have promised to face trials, and humilations if need be."

"But you have made a mistake, and if you go ahead, you will make a worse fool of yourself than you ever did before; your friends will pity, while others will smile in ridicule and derision. Can you submit to this, is it a duty?"

"All this and even more, should it be the will of your Master. Perhaps this is just the lesson you need for your spiritual growth, and with your new found Friend near, you need not be afraid to risk the ridicule of all the kings and princes of earth."

During the half hour I sat still, I was pretty well disciplined, and when called for, I arose humble, and ready to be led, wherever or to whatever duty, that quiet voice might lead. As I stepped out among the people it seemed to say "fear not," and as I thought of the paper the same voice bade me to let it rest securely, and words would be given me to speak. Quietly and simply, I told them of my new life, and how much I regretted that I had so long held aloof from that new found Saviour; I assured them that if any cared to talk with me in future, in regard to the subject, I would most gladly help them all I could. As I passed back to my seat, can you imagine the feelings of joy and gratitude with which I thanked that strong Friend, who had led me safely in "paths of peace?"

Now we are ready to go back—or rather forward—to that Sabbath school. After the address to the children, I at first resolved I would stay at home hereafter, and work at something I could do tolerably; but I only felt more uneasy after this decision. When I decided to let the Sabbath school matter drop, hoping every body would soon forget it, I felt still more, that my path ahead was getting to be anything but one of "pleasantness and peace." Thereupon, I decided to go straight back to the conference, on the morning of the second day, and when I was once seated in my buggy, it occured to me for the first time that I might visit the town of the proposed school on my way and thus keep my promises good, both in letter and spirit. After I had turned my horse's head in that direction—it was about the first of May '76—I was about as happy—as one usually is after they have wandered a little out of the path of duty, and found it again. The birds sang, the trees and fields wore a brighter green, and all nature seemed trying to make my "path" a pleasant one.

"A Sunday school in our village!" said the first individual to whom I mentioned the matter, "Why we are away past things of that sort; you certainly can not be in earnest?"

I assured him I was, and asked for the trustees of the school house. One of them was found in one of the saloons, but when made to understand the object of my call, replied that he never heard of Sunday schools doing any harm, and his children all promised to come, as did all the little ones at the district school when I went in and talked with them. This promise they have most faithfully kept, for during our zero weather, and in spite of storms and snow drifts, I find them always on hand.

After everything was pleasantly arranged for the opening of the school on the next Sabbath, I went on to the conference meeting. There was quite a disposition, then, to boast a little of my success and the fine way in which I was getting along, but a better impulse said, "Will it not be a better way to do all this work quietly, and say but little about it, unless you are asked?" This voice prevailed, and very thankful am I that it did so. To one who is constantly in danger of carrying things to extremes, it is a most comforting thought, to feel that we shall be even guarded from these errors, if we are only willing to be led. I remember telling my mother, about this time, that in all my other works in life, I constantly feared getting away into extravagant ideas of things that I might look back to and regret afterward, but that in this new work, I felt I should be warned and checked, if I only asked daily to be shown my faults and failings.

From that time to this, one of the pleasantest paths I have in life, has been with that Sabbath school. Through all kinds of weather, it has seemed far easier to go than to remain at home, and not one postponement has there been so far. Once, and only once, I decided to remain at home on account of a severe rain storm, but after the horse and buggy had been sent back, I began to feel so lost, and for all the world, "like a fish out of water," that I very soon made up my mind the rain would be the lesser of the two evils; and when once on the way, my path seemed pleasant and peaceful once more. It is true only a few little boys were there to greet me, but we had a very nice time going over the lesson after all, I felt most emphatically that God was with us, for we were in the path of duty, and had shown our good will to Him and His cause.

A time came, along towards winter, when it was deemed advisable that the school should be given up until another summer, but I talk- with the children in regard to the matter, and told them I would be on hand all winter if they would, and that if the school failed, I would be the last one on the ground. I felt that if I looked constantly to the right source for help, it would not fail, nor has it. Just about this time business became very dull, and like many another mortal, I found that our expenses were more than our income. I dismissed a part of the hands, and—

Just here allow me to digress a little. When the school was commenced, I had not the remotest idea, that it would ever be a profitable investment pecuniarly; but on the contrary, cheerfully accepted the livery bills, bills for books and lesson papers, and proposed to pay it all out of my own pocket. To make the room look pleasant and cheerful to the children I carried a little clock to encourage prompt habits, and a plated call bell to avoid talking and introduce system and regularity. The room was very dirty and unpleasant at first, and finally my wife suggested to the women of the neighborhood that it should be scrubbed. The hint was not lost, for we had for some time after, as pleasant a room as one could wish, and one little girl in describing the event, said they actually "poured as much as a half dozen pails of water right on the floor." Well, after the 3d or 4th Sabbath, I mentioned that if anyone wished to assist our Sabbath school, they could after the school was over, drop a penny or more, in the little box on the stand. As soon as school was over, there was a rush for the box, and they not only soon paid for their lesson papers, but paid for some of Moody and Sankey's singing books, and their contributions have ever since averaged more in proportion to their number, than our own school here in town. One of our livery men who was a church member, gave me a horse and buggy, and often a double carriage, at 75c each Sabbath, less than half the usual rates, making this expense much less than I at first calculated. Again, many times in my life, I have needed the services of quite a number of hands, but humilating as it was, I was obliged to confess that I was unequal to the task of taking-charge of more than a half dozen at one time profitably. I was either easy and careless with them, or cross and fault-finding, and as business began to increase during the summer months, I made the discovery that the same spirit that made a good Sabbath school teacher or superintendent, made a good employer. In other words, when I studied the future good of those in my employ, and talked to them about bad habits, respect for the Sabbath, etc., in a spirit that made me want to pray for them, they straightway became faithful and profitable hands. Here came in the reward for my work on the Sabbath, and in a direction, to me, most unexpected. I have an own brother, who goes with me Sundays occasionally, but who thinks I am a little fanatical, I fear; in mentioning the matter to him, he exclaimed, "Why that is only plain common sense; if you treat a person well and kindly, they will of course try to please you in return." Very likely the true spirit that Christ taught, *is* plain common sense, but unfortunately, it is of a kind that oftentimes reaches farther than human vision can foresee. Suppose a modern scientist should say to an individual,

"Go away off to heathen lands, and teach them good morals. Leave your pleasant home and friends, and let the thought that you are loving your neighbor as yourself, sustain you in all your trials and hardships, and when you die, you will be cheered by the thought that you have added to the wealth and commerce of the world, by carrying civilization among savages."

There may be those who would heed such an appeal, but I must confess, that to me it would be rather "slim comfort."

At the time I felt it a duty to reduce wages, I had been dreading to speak of the matter for a long time, disliking to give the pain I felt it must, to those about me. I was astonished to find that all acquiesced pleasantly and cheerfully, and one of the employees even mentioned that he had expected it. Think you that "strikes" could ever occur where such a spirit exists between the one who furnishes the capital and those who furnish the labor? Well, in spite of what seemed close economy, expenses seemed every day determined to exceed income. Paper must be purchased for another year, materials must be had, or work could not go on at all, and the daily demands for money, for purposes that could not be set aside seemed coming thicker and faster. Finally the source from which money had been furnished me for so many years, with no other condition than that I paid the interest promptly, unexpectedly asked security. I have always prided myself on being able to get along without asking anybody to be responsible for me in any way, and on the same grounds, could decline being responsible for the mistakes of others. I had talked for years of the beauty of having everybody independent, and of going without things rather than run any risk of causing others to suffer by our faults or failures, of going in debt no farther than our property would safely make good under *any* circumstances. When I looked about to see where the errors had been, to see where I had made bad or injudicious investments, it looked all right, yet the fact stood squarely before us, (my wife and I, for she shares all the trials and triumphs of business, and even when I am headstrong and do not heed her wise counsels, she accepts the condition of things precisely as if it were her own work), that we were in debt in a way that we had no business to be, and that it was positively wrong and sinful. Hand in hand, we bowed before that Father who had so often guided us in trouble, and very soon we saw our mistakes, and the safe path to take in the future.

A few illustrations will serve to point out the way in which that path of peace was shown, and disagreeable, humble, toilsome and laborious as it seemed at first sight, how pleasant and easy it became, after I had once accepted and started out in it. One of the many items was the section box; I felt that I must have a set of saws to groove stuff 2 inches wide, but it would cost more money than I --in fact I knew such bills for machinery must be stopped. But our friends must have the section boxes, and they must be made in a way that would be simplest and best for them. I turned to that same Friend for counsel, and then looked to see what could be done with the tools I had. The result was given in the January No., and I had not only saved my money, but showed our thousand readers how they might save theirs in a similar way; not only this, but it is really almost the only plan by which this work can be done with foot power saws, for they have not sufficient power to drive 7 or 8 saws at once. The same ideas will apply to all appliances about the apiary, and if having small means at my command will fit me better or make GLEANINGS of more value to the masses, I earnestly pray that I may be spared from much prosperity.

Seventy-five cents each Sabbath, would be $39.00 for livery for that Sabbath school; we decided at once, that such an amount could not be spared, but *I* very quickly decided in my own mind, that I would go on foot. I did not mention it, for I wished to test my powers of walking first, and I really longed for the time, that I might see how much of a task it was going to be. If I lacked strength, I felt that it would be given me, and this feeling was strengthened by reading on a scrap of paper that fell in my way, that Moody had said God always gave all the strength that was needed, to those who were willing to work for him. I walked the 10 miles—5 there and as many back—the first Sabbath very easily, but as the road was quite snowy I felt the effects of it for a day or two. This I expected, but the next time I felt it much less, and about the third trip, scarcely at all. Now there is scarcely anything I look forward to with more pleasure, than my Sabbath afternoon's walk.

Notes and Queries.

HOW low a temperature will bees endure, safely, with no extra protection? [*Hard to determine, perhaps* 20°.] How low, when protected by a house with straw packing six inches thick all around except in front, so that when the doors of the house are opened, the front of the hive is exposed? [*Unless the packing is close to the bees, we would prefer to have them in the open air.*] How long will bees remain safely dormant, at one time? [*Certainly* 4 *months; some of our successful ones think they could keep them a year, in a good cellar.*]

One man reports most of his swarms dead, frozen solid. His hives stand out with no protection. Another, with a house and straw packing, except in front, says several of his colonies have their entrances filled solid with ice. But on raising the cap, and canvas on top of the comb frames, the bees poured out and he was obliged to close them in, at once. He then left the cap a little ajar for ventilation. I will only say, that my swarm, purchased Aug. 23d, '76, and pronounced all right, by our professional apiarist, W. M. Kellogg, when placed in winter quarters, (house with six inch straw packing, except in front), seems now all right. E. CHILD.

Oneida, Ills., Jan. 19th, 1877.

A neighbor wanted some logging done last spring, so father let me take the oxen and I worked one day, in return for which he put the first swarm he had come out, June 15th, into a large box hive for us. Father said I might call them mine, and I tell you they worked busily. They swarmed July 12th, besides making 19 lbs. of nice honey for us. In Oct. the large hive weighed 57 lbs. and small one 25 lbs. independent of the hives. For wintering I set them on the east side of a knoll, built a little house around them, packed 6 or 8 inches of chaff and straw around the hives and covered them over to keep out water, leaving a little upward ventilation. I fixed the hives so the bees could fly. They don't carry out any dead ones and seem to be wintering well. I am going to school, but what spare time I get I work at making hives; am going to use the Standard frame, think it about right. Now probably I shall have to feed that little swarm before spring and I want to ask you a few questions. Do you think artificial honey would be good to feed? It is composed of syrup made of A sugar with a little cream tartar, and two or three drops of peppermint essence; they ate this in the fall as quickly as honey. [*As good as sugar and water alone, but no better.*] Do you think I have adopted the wrong frame? [*Yes.*] If a bad odor arises from a hive in buckwheat time, is it caused by buckwheat honey or foul brood? [*Buckwheat.*] If you should get time between now and spring to answer this letter will you please put in a few bee balm seed if you have them? But don't put yourself out of the way for me. With much love to—I guess I will have to call you our Teacher in the Bee School—I close. One more question I didn't think of last night. Will Italian queens mix with black drones if they are a half mile apart? [*Yes, or even three miles or more. Be sure and tell us more about that swarm you got for logging and its increase.*] O. F. BOWEN.

Randolph, N. Y. Jan. 1st, 1877.

How would virgin queens from an imported mother at 25c. each, take, in place of larvæ? I think I have got "*the feeder.*" Take any tin cup or dish, cut a small hole through the bottom and solder a ring like a very short bottle neck, on around the hole; stretch a cloth over this, tie by winding a string round the neck and bore a hole through the honey board to admit the neck. You can feed summer or winter with equal facility; you need not open the hive at all. No waste, no robbing and no daubing. H. P. Sayles, Hartford, Wis. Jan. 17th, 1877.

FEEDERS, AND SELLING VIRGIN QUEENS.

[Virgin queens can be raised for 25c. each, with the lamp nursery without any trouble at all, but before they could reach the purchaser, they would be so old as to be almost useless, unless some method of introduction can be invented, better than any now known. To be candid, we have little faith that a virgin queen a week old can be introduced by *any* process. Your feeder is old, but good; the objections are that you have to cut a hole through your quilt or honey board right over the cluster, and that thick and thin syrup, do not work equally well.]

I have sent to Dadant & Son for an imported colony. I have 80 colonies and nearly all are pure Italians. The imported stock makes me 81 good strong stocks to begin with in the spring. They are all in frames 12x12 and 17x12. I have 350 glass boxes 6x6 filled with comb honey. I will want 1000 frames and sections.

HARDIN HAINES, Vermont, Ill., Jan. 1877.

Is not ours the banner county for honey? One citizen (J. S. Harbison) has sent 13 car loads of ten tons each, to the eastern states this season. E. W. MORSE.

San Diego, Cal. Jan. 9th, 1877.

I am wintering 130 colonies; 89 in bee house with 20 inch walls filled in with sawdust. The remaining 41 are on their summer stands, packed around and above with fine hay which I consider equal to anything I have ever tried for packing. JACOB ULERY.

Northampton, O., Dec. 21st, 1826.

My bees are doing better in cellar this winter than ever before. I have one of Barnes' Circular saws, and for making bee hives it is hard to beat. A. F. STAUFFER.

Sterling, Ill. Jan. 17th, 1877.

WE should always be provided with empty worker comb to replace any we remove from the centre of the hive; there is certainly no need of getting drone comb unless we wish.

◆

WE should be glad to continue to send GLEANINGS and *A. B. J.* for $2.25, but friend Newman and ourselves agree that we might run short of bread and butter unless we have about $2.50; that will therefore be the price hereafter.

◆

CAN send you a foot power buzz saw on trial and if it does not suit, you can return it with no other expense than the transportation. For particulars, send for our new price list of saws, etc., describing the new attachment for dovetailing section boxes.

◆

FOUNDATION made of common yellow wax, can be shipped during the coldest weather in winter, while all attemps at shipping the white during zero weather have resulted in its being all broken in bits. Another fine thing in favor of the yellow, is that it bleaches itself by being kept; some that was made almost a year ago, was found to have changed to a buff, or cream color, even though it had been kept all the time in a closed box. Now comes the question, is this home made white wax, brittle, like that made at the factories? Candidly, it is not, and it seems but little if any different from the yellow, yet it is not perfectly white, like the other. We are perfectly satisfied that the yellow is all that is required for comb honey, but are not at present prepared to decide whether it is best to use fdn. with side walls for comb honey or not; both answer nicely, but that with walls, is worked most rapidly, while the other is considerably the cheapest, per square foot.

ANNUAL MEETING.

The Seventh Annual meeting of the North-eastern Bee-Keepers' Association will be held at the TEMPERANCE HOTEL in the city of SYRACUSE, N. Y., on the 7th 8th and 9th of February, 1877. First session at 1 o'clock P. M. of the 7th. Interesting papers are expected from eminent apiarians from abroad. Efforts are being made to sustain the popularity and usefulness of the Association. Several members are expected to read essays or deliver addresses.

Come prepared to report accurately, the season's operations. We wish to know the number of stocks kept, spring and fall, condition, kind of hive, amount of honey produced, box and extracted, wax made, remarks on the value of the honey season, etc. The statistical table prepared by this Association is original and will again be arranged.

R. BACON, Pres. J. H. NELLIS, Sec'y.

ITALIAN BEES.

Imported and home bred queens; full colonies and nucleus colonies; bee keeper's supplies of all kinds, Queens bred early in the season. Send for catalogue.

9tf DR. J. P. H. BROWN,
Augusta, Ga.

$6,00 IMPORTED QUEENS.

I shall import pure Italian queens for my own use next June, and will import for parties wishing them, and ordering before April 1st, at a cost of $6,00 each. Purchasers must take all risks after the queens leave New York. For particulars address,

1 R. FERRIS, Belleville, Essex Co., N. J.

Choice Seeds!

Bee-keepers and all others who desire to purchase seeds for the farm, apiary, nursery, flower or vegetable garden; agricultural or apiarian implements, supplies, &c., should send for our new descriptive catalogue. Price list free.

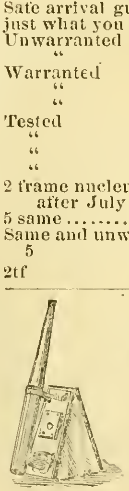
Address, carefully,
C. F. LANE'S N-W. Apiary and Seed Warehouse.
1 Koshkonong, Wis.

ITALIAN QUEENS FOR 1877.

Queens bred from Imported or home bred stock. Safe arrival guaranteed. Will send you every time just what you order.

Unwarranted queen	$1 00
" " per doz.	11 50
Warranted "	1 50
" " per half doz.	8 00
" " per doz.	14 00
Tested " before July 1st	3 50
" " after " "	2 50
" " " " " 4 for	9 00
" " " " " per doz.	20 00
2 frame nucleus (frame 11x12) and tested queen after July 1st	5 00
5 same	26 00
Same and unwarranted queen	4 00
5 " "	17 00

2tf J. OATMAN & CO., Dundee, Ills.



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Box material for as desirable a box as can be made. General bee-keeping supplies.

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2tfd Mohawk, Herkimer Co., N. Y.

ADVERTISEMENTS.

Advertisements will be received at the rate of ten cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

I HAVE about 2000 lbs. of nice ext'd honey, which I offer at 10c cash. G. M. DALE, Border Plains, Ia.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 10c, each insertion, or $1.40 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 10c. *each insertion, or* $1 00 *per year.*

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, safe delivery, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use and imported queen moth-

If wanted by mail, send 10c. extra.

*G. W. Dean, River Styx, Medina Co., O.	
*J. Oatman & Co., Dundee, Ill.	1-12d
*E. W. Hale, Wirt, C. H., West Va.	6-6
*J. M. C. Taylor, Lewiston, Fred. Co., Md.	1-6
*Dr. J. P. H. Brown, Augusta, Ga.	9tf
*Albert Potter, Eureka, Wis.	1-12
*Wm. J. Andrews, Columbia, Tenn.	2-2
*Hardin Haines, Vermont, Fulton Co., Ills.	2t4

Probably the first of June will be as soon as they can be furnished; those who want them sooner, will have to take higher priced ones.

Hive Manufacturers.

A. I. Root, Medina, Ohio.	
M. S. West, Pontiac, Mich.	6-5
Geo. W. Simmons, Newark, Del.	1-12

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our ninth edition circular found in Feb. No., Vol. IV., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required.*

Canada postage on *merchandise* is limited to 8¾ oz., and nothing can be sent for less than 10c.

Bees, full colony amply provided for winter, in our new two story, chaff hive (described Nov. and Dec. No's .. '76), tested queen from imported mother, safe arrival guaranteed..(Lawn hive $1 more.)..	$15 00
The same in a 1 story Simplicity hive	13 00
The same in old style L. hive with portico, etc	12 00
The same with hybrid queen	10,00
The same not provisioned for winter	7,00

We think we can prepare bees for shipping safely any month in the year; when we fail in so doing, we will give due notice.

0	Binder, Emerson's, for GLEANINGS	50, 60, 75
	Balances, spring, for suspended hive (60 lbs)	8,00
10	Blocks, iron, for metal cornered frame making	15
	Barrels for honey, $2.50; waxed and painted	$4,60

Buzz-saw, foot-power, *complete*; circular with cuts free on application. Two saws and two gauges included. $35 00

0	Buzz-saws, extra, 6 in. 1.50; 7 in.. 1.75; 8 inch..	2 00
60	Buzz saw mandrel and boxes complete for 6 inch saws	5 00
	The same for 7 and 8 inch saws (not mailable)..	8 00
	Comb Foundation Machines complete....$20 to	100 00
60	Chaff cushions for wintering	30
25	Chaff cushion division boards	20

Half price without the chaff, and postage 5 and 2c.

20	Candy for bees, can be fed at any season, per lb.	17
20	Corners, metal, per hundred	1 00
25	" " top only	1 25
15	" " bottom, per hundred	75

On 1,000 or more a discount of 10 per cent. will be made, and on 10,000 25 per cent. The latter will be given to those who advertise metal cornered frames.

10	Clasps for transferring, package of 100	25
0	Cards, queen registering, per doz	10
2	Cages " all of metal	10
2	Cheese cloth, for strainers, per yard	10
12	Duck, for feeding, and covering the frames—bees do not bite it—per yd. (29 inches wide)	20
	Extractors, according to size of frame $8 50 to	10 00
	" inside and gearing	5 00
	" wax	3 50
7	Feeders, 1 q't, tin, can be used without opening the hive, in warm weather—neat and simple	10
25	The same, 6 qts, to be used in upper story...	50
4	Frames with Metal Corners	06
5	" Sample Rabbet and Clasps	10
10	" Closed end Quinby, nailed	05
0	GLEANINGS, Vol's I and II, each 75c., Vol IV	1 00
50	Gearing for Extractor	1 50
20	Gates, Honey, for Extractors	50

SIMPLICITY BEE-HIVE.

One story hive for extractor (body 50c—2 covers 60c—nailing and painting 20c—quilt 25c—10 frames 60c—crating 10c) 2 25

One story hive for comb honey is precisely the same as the above, substituting 2 frames of sections for 4 metal cornered frames 2 25

The above 16 sections will be fitted with fdn., and starters ready for the bees, for 15c, and the tin separators added for 10c, making whole complete 2 50

The above two hives contain everything used in a 2 story hive. We simply use another body filled with frames or sections, for a 2 story hive.

For a 2 story hive for the extractor, add (to 1 story 2 25) body 50c—nailing and painting 10c—10 frames 60c—crating 5c, making complete 2 story containing 20 frames 3 50

For a 2 story hive for comb honey add (to 1 story 2 25) body 50c—nailing and painting 10c—6 frames of sections 78c—1 metal cornered frame 6c—crating 6c, making complete 2 story containing 7 frames and 64 sections 3 75

If filled with fdn. starters 60c—if also filled with tin separators 40c, making $4 75, if two latter items are wanted.

To prepare the above hives for winter, put in place of the 2 outside frames chaff cushions, price 20c each, and a thick one on top 30c.

CHAFF HIVE FOR OUT DOOR WINTERING, 10 frames below, and 14 frames or 80 section boxes above, well painted and finished complete ....(Lawn hive $1 more.)	$5 00

These hives, if supplied with stores, will, we hope, need no attention whatever, from the time honey ceases until it comes again the next season.

0	Knives, Honey (½ doz. for $5 25)	1 00

Labels for honey, in blue and gold, dark bronze and gold, or in white printed in two colors, furnished with your own address, and source from which the honey was gathered, already gummed, post paid by mail, (no order rec'd for less than 250). At these low rates, the full number mentioned *must* be ordered without the change of one single letter of the type.......1000, $3,25; 500, $2,40; 250, $1,80

0	Lithograph of the Hexagonal Apiary	25
	Lamp, Nursery	5 00
0	Larvae, for queen rearing, from June to Sept.	25
15	Microscope, Compound, in Mahogany box...	3 00
0	Prepared objects for above, such as bees' wing, sting, eye, foot, etc., each	25
0	Medley of Bee-Keepers' Photo's, (150 Photo's)	1 00
0	Magnifying Glass, Pocket	60
0	" " Double lens	1 00
7	Muslin, Indian head, for quilts and cushions per yard	10
	Parafine, for waxing barrels, per pound....	20
0	Photo. of House Apiary	25
2	Rabbets, Metal per foot	02

SECTION BOXES IN THE FLAT, PER 1,000.

Any dimensions not exceeding 2x5x5 10 00

The above is 50 cubic inches; for larger sizes add 10c per 1,000 for each additional cubic inch or fraction of an inch, outside measure.

2x4¼x4¼, just right to fit in L. frames 9 50

These are put up in packages (of 64 each) containing just enough for a 2 story hive 60

Sample by mail with fdn 5

If the grooving for holding the fdn. is omitted, 25c less per 1,000.

10	L. frame made 2 inches broad to hold 8 sections	5
25	The same with 8 sections	13
25	The same furnished with fdn. starters all ready for the bees	20

Adding tin separators to either of the above will increase the price 5c, and the postage 6c.

4	Section boxes, fancy, hearts, stars, crosses, etc. each	5
3	Sheets of duck to keep the bees from soiling or eating the cushions	10
0	Scissors, for clipping queen's wings	40
18	Seed, Alsike Clover, *raised near us*, per lb.	25
20	" Summer Rape. Sow in June and July.	15
0	" Chinese Mustard, per oz.	25
10	Smoker, Quinby's (to Canada 15c extra)	1 50
5	" Doolittle's	25
2	Tacks, Galvanized	10
3	Thermometers	40
0	Veils, Bee, with face of Brussels net, (silk)	75
0	The same, all of tarletan (almost as good)	50
5	Wire Cloth, for Extractors, per foot	15
	" " Queen Cages	15

All goods delivered on board the cars at prices named.

☞ We will pay $1.00 cash, for Vol. III. A. I. ROOT.

E. W. HALE'S

Price List of Bees, Queens, Etc., for 1877.

1 Full colony .. .. with tested queen	$13 00
1 three frame nucleus " " "	5 50
1 " " " " dollar "	4 00
1 tested queen	2 50
1 untested "	1 00

A discount of 10 per cent will be made on all orders of more than $10 00 each. All my queens are raised from *Imported Mothers*, I only guaranteeing the safe arrival *of all tested queens* within 1000 miles. The money must accompany each order, and all orders will be filled strictly in rotation. My location enables me to furnish queens much earlier than parties farther north. Address,

2-10d E. W. HALE, Wirt C. H., W. Va.

FOR SPRING DELIVERY!

250 *Colonies Italian Bees.*

1 to 3 Colonies, each	$9 00
5 to 10	8 50
10 to 25	8 00
50 to 100	7 75

Our bees are all healthy and free from foul brood, and most of them have queens of last year's rearing. Safe arrival guaranteed by express. We guarantee satisfaction in *all* our transactions. Address

2-5d J. OATMAN & CO., Dundee, Kane Co., Ill.

Averill Chemical Paint.

THE *ONLY* RELIABLE.
THE *MOST* BEAUTIFUL.
THE *MOST* ECONOMICAL.
THE *MOST* DURABLE.

Requires no oil thinner or drier,
Requires no waste of time in mixing,
Has stood *eight years' criticisms*
With *yearly increased popularity*
And *yearly increased* sales.

Is sold by the gallon only, in packages of from 1 to 40 gallons each, in Purest White and any Color or Tint desired.

Address, for sample card of colors and price list,

Averill Chemical Paint Co.,
Office and Factory 132 & 134 East River Street,
CLEVELAND, OHIO. 6-6-'77

QUEENS From The SOUTH.

Italian queens furnished the coming season at the following prices:

1 tested queen	$3 00
6 " "	15 00
1 untested queen	1 00
6 " "	5 00
Full colonies in Langstroth hives	12 50

☞ Safe arrival of *all queens* guaranteed. ☜

Purchasers must assume all risk in the transportation of full colonies.

As prompt attention as possible will be given to all orders, and *satisfaction guaranteed.*

2tf RUFUS MORGAN, Old Fort, N. C.

THE BEE-KEEPERS' MAGAZINE, an illustrated monthly journal of 32 octavo pages, devoted exclusively to bee-culture; edited by ALBERT J. KING, containing contributions from Mrs. Ellen S. Tupper, and experienced bee-keepers, in America and Europe. A large space is devoted to beginners, giving useful information just when it is most needed throughout the year. Terms, $1.50 per year. The Bee-Keepers' Text-Book in *German or English*, and the Bee-Keepers' Magazine one year $1.70. A 64 page pamphlet (price 50c) containing a beautiful life-like **Chromo** of **Honey-Plants** and **Italian Bees** in their natural colors, with prize of Mrs. Tupper, Queen rearing by M. Quinby, instruction for beginners etc., sent *free* with the Magazine, on trial, 4 months for 50 cents. Agents wanted—cash commission and permanent employment. Address

A. J. KING & CO., 61 Hudson St., N. Y.

MOON'S "BEE WORLD."

Established in 1873, by A. F. Moon, at Rome, Georgia.

The Bee World has for its contributors the most practical bee men in America; besides, the editor, A. F. Moon, is one of the oldest and most experienced bee men now living. The Bee World circulates in all the States of the Union, Great Britain, and Europe, among people of all professions, and intelligent business men generally. It is one of the most reliable bee papers in the English language. A good advertising medium. Send stamp for specimen copy. $1 50 per annum. Address

1tf A. F. MOON & CO., Rome, Georgia.

THE British Bee Journal,

Is a large, beautifully printed, and profusely illustrated MONTHLY; clear type and fine heavy paper.

It is conducted by CHARLES NASH ABBOTT, Hanwell, W., London, England. Annual subscription, half-a-guinea.

We will send it with GLEANINGS and pay all postage for $2.50.

TERMS: STRICTLY CASH IN ADVANCE.

One copy one year $1 00, or with Lithograph of Apiary, size 12x15, mailed free, postpaid, $1 25, or Lithograph will be sent as a premium for two Subscribers at $1 00 each.

Any person obtaining three Subscribers at $1 00 each, may retain 50c. for his trouble.
" " five " " " " 1 25 " "
" " ten " " " " 4 00 " "

Any number above ten will be sent at the rate of 60c. each.

Or, GLEANINGS, $1 00; three copies, $2 50; five, $3 75; ten, $6 00.

Names may be sent at any time during the year, and whenever a club is reached, we will credit back the amount previously sent us in excess of the club rates. In this way any of the

Articles Mentioned on our PRICE LIST may be Secured as PREMIUMS.

Please mention when names are intended for clubs. An acknowledgement will be sent in all cases on receipt o money—for any purpose whatever—by return mail. Volumes I and II at 75c. each, or Volume IV at $1.00 may be counted on the same terms, as we have a

Large Supply of BACK NUMBERS Provided for new beginners.

As we can not take the space in future numbers to go over the same ground again, and Volume I contains the entire Fundamental Principles and

Ground Work for Starting an Apiary.

for hives or implements of any kind. Follow the example of Quinby and Langstroth, by giving to your brothers and sisters, all you can originate, and thereby keep out of the company of those who have so often taken money from their friends without rendering any just equivalent. We shall never lose by being liberal with one another. So far as patents are concerned, every body is free to make or use anything mentioned on these pages, and will you not all pleasantly assist in carrying this out? It costs towards $100 to get out a patent, and you will rarely get this amount back and feel good about it.

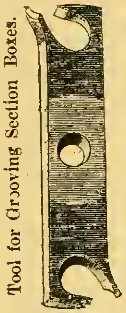
GLEANINGS IN BEE CULTURE

Devoted to Bees and Honey,

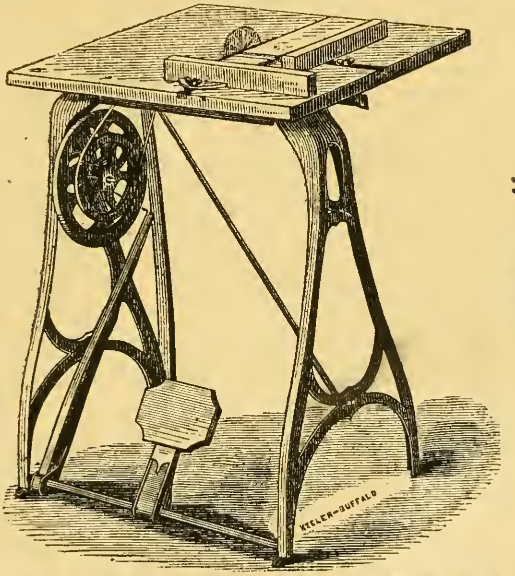
And Peace on Earth and Good Will toward Men.

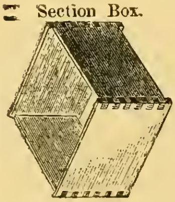
PUBLISHED MONTHLY, AT MEDINA, OHIO,
BY A. I. ROOT.

Vol. V March, 1877. No. 3



Tool for Grooving Section Boxes.





Section Box.

Foot-Power Buzz-Saws.

He who would succeed in anything, must work. If you are going to be a bee-keeper, you must make up your mind beforehand, to fight continually, with difficulties, and discouragements, and if you are going to make a success with the saw above, you must learn the trade. When first sent out, they are supposed to be in nice trim, but with inexperienced hands, they are very apt to get a little out of trim. The power required to do the work, is but little, if everything is all right, and you know just how to feed, but if the saw pinches, or some part of the machine binds, you may exhaust all your strength very quickly, and accomplish very little. See that the balance will spin like a top, and then learn to keep it spinning, by taking a full stroke on the treadle. You *must not* try to work it by short strokes as you do a common treadle, but you must let the strap wind clear up to the wheel. Screw the machine fast to the floor, put on the saw, and before you commence sawing, make the saw fairly "hum." While you are learning, use clear nice pine, and it will pay you to cut out hard knots, if practicable, rather than dull your saw on them. Screw the table top up until the teeth of the saw just reach through the lumber, and be sure the gauges are so set, that the saw has a clear path—that nothing touches it except the points of the teeth. Do not crowd the saw so as to reduce its speed, but feed slowly and carefully, and you will soon be astonished at the amount of work you can do, with comparatively little fatigue. When you begin to file your saw for the first time, you will probably have trouble. If you get too much set in it, or some teeth stand out farther than others, so as to make rough work, you can get them even, by holding an oil stone against the side of the saw while it is run very slowly. You can make sliding gauges of hard wood, one expressly for each part of the hive, and then you can make no mistakes.

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Feb. 27th. We have to-day, 1571 subscribers; thanks.

COMB FOUNDATION.

Having purchased a machine for my own use I will furnish the fdn. in strips any length by 5 inches or less wide at 75c. per lb. if I can get the

Bees-wax Wanted.

I will pay 30c. cash for clean yellow wax delivered here. I refer to the Editor of this Journal.

GEO. M. DALE.
Border Plains, Webster Co., Iowa. 3-5

One Hundred Colonies

PURE ITALIAN BEES FOR SALE CHEAP. Send for Circular and Price List.

C. C. VAUGHAN.
3-8 in q. Columbia, Tenn.

Wanted on Shares.

I WOULD like to take a Stock of 100 or more swarms of Bees in some good locality to handle on shares. For Competency and Thoroughness and Fair Dealing, I would refer to Muth. Should want, if possible, to run all for extracted honey.

M. NEVINS.
3-8d Cheviot, Hamilton Co., O.

*TESTED QUEENS. READY FOR IMMEDIATE SHIPMENT.

Wishing to reduce my Apiary preparatory to removing to a new location April first, I will receive orders for pure tested Queens during this Month at $3.00 each, or three for $8.00. Queens will be Home-bred or from my Dadant Imported Mother, as desired, with purity and safe arrival guaranteed. No hives or hive material for sale this season. Full Colonies 25 per cent less than last year; but no orders for Queens solicited after May first, as my engagement for the coming year will forbid the close attention required in Queen rearing.

J. S. WOODBURN.
Dickenson, Cumb. Co., Pa.

ITALIAN QUEENS,

By mail, and safe arrival guaranteed. Unwarranted Queen, $1. Warranted, $1.50. Also dealer in and maker of Hives, Frames, Metal Corners, &c., &c. Send for prices. Send in your orders with the cash, as I shall begin to ship Queens the 1st of May. Those preferring can order through Ed. *Gleanings*. Address,

3tf1 T. B. PARKER Goldsboro, N. C.

ITALIAN BEES FOR SALE.

Great Reduction in Prices.

Mrs. Adam Grimm will sell, and ship between the 1st and 20th of May, 1877, the remainder of her bees, amounting to about 450 Good Colonies, at the following prices:

Pure Italians, from 1 to 5, each Colony	$8 00
" " " 5 to 10, " "	7 50
" " " 10 to 20, " "	7 00
" " " 20 to 100 " "	6 50
Hybrids descending from Pure Italians,	
1 to 20, each Colony	6 50
20 to 100, " "	6 00

Safe arrival guaranteed if ordered in lots of less than 25.

Being appointed administratrix of the estate, I must sell said bees this spring, as the estate will be settled within a year.

MRS. ADAM GRIMM.
3—5d Jefferson, Wis.

Wm. W. Cary, Colerain, Franklin Co., Mass. Sixteen years experience in Propagating Queens direct from imported mothers, from the best district in Italy. Persons purchasing Queens or Swarms from me will get what they bargain for. Send for circular. 3 in q.

Italian Imported Bees & Colonies.

PRICES GREATLY REDUCED.

Full Colony with Imported Queen	$14 00
" " home bred Tested Queen	10 00

Special rates for large quantities. All the Colonies sold are in *new* and well painted movable frame hives; all combs straight.

1 Imported Queen after June 1st	7 00
2 " Queens " " each	6 50
6 " " " " "	6 00
12 " " " " "	5 50
Single Queens to Old Customers	6 00

Safe Arrival Guaranteed on Queens and Colonies.

References furnished in nearly every State in the Union and Canada, or among the most noted Apiarians of Europe. Send for Circular to

CH. DADANT & CO.,
3d Hamilton, Hancock Co., Ill.

Hurrah for Canada.

Let's have Free Trade. A Universal and Adjustable Honey Extractor for $5.00, all Metal, no Cog Gearing, no Slipping of Belts, a Stationary Can, a Perfect Machine. Will take Frames from 10 to 13½ inches in Length, and 15 inches Deep. Warrented to give Satisfaction or Money Refunded. Metal Corner Frames $4.00 per hundred. Sectional Frames any Size within reason, 1c. each. Hives, Smokers, vails, etc., etc. Circular and Price List free.

Address M. RICHARDSON.
Port Colborne, Ont. Can. 3-4d

MUTH'S ADVERTISEMENT.

HONEY JARS!

One pound (square) jars, per gross	$6 00
Two " " " "	8 00
One " " " flint glass per gross	8 50
Two " " " " " "	10 50
Corks for 1 and 2 pound jars	75
Tin foil caps, per gross	1 20
Labels " "	75
A thousand labels address printed to order	5 00
One qt. fruit jars, Mason's patent, per gross	17 00
Labels for same, " "	65
A thousand labels address printed to order	4 00
Uncapping knives, as good as any, each	50
" " per dozen	4 50
Alsike clover seed, per bushel	13 50
" " " " peck	3 50
" " " " pound	40
Catnip seed, per pound	6 50
" " " ounce	50

Langstroth Bee Hives,

Straw mats, bee vails etc., at reasonable rates.
For further particulars, address
CHAS. F. MUTH, Cincinnati, O.

TABLE OF PREMIUMS.

The first column is for those only, who send 5 or more names.

Names of Premium Articles. *Any of them sent post-paid on rec'pt of price.*	*Prices of Premiums*	*Number of Subscribers required at* 75c.	*or at* 1.00
1—*Lithograph of Apiary, Implements, etc.*	25	5	2
2—*Photograph of House Apiary*	25	5	2
3—*"That Present," Novice and Blue Eyes*	25	5	2
5—*Emerson's Binder for* GLEANINGS, *will hold 4 Volumes*	50	6	3
6— " " *better quality*	60		3
7—*Pocket Magnifying Glass*	60	7	3
8—*First or second Volume of* GLEANINGS	75	8	4
9—*Best quality Emerson's Binder for* GLEANINGS	75	8	4
10—*Double Lens Magnifier, on 3 brass feet*	1,00	9	4
11—*Photo Medley, Bee-Keepers of America*	1,00	9	4
12—*First and second Vol. of* GLEANINGS	1,50	10	6
13—*Centennial Cabinet Clock; a pretty and accurate time piece, that will run even when carried about, for only*	$2 00	15	7
14—*A real Compound Microscope, beautifully finished, and packed with Implements in a Mahogany Box*	3 15	20	8

HONEY-COMB-FOUNDATION MACHINES.

Latest! Cheapest! Best!

Send Stamp for Circular and Samples of work.

Address, A. J. KING & CO.,
3-5d 61 Hudson St., N. Y.

CASH FOR BEES-WAX.

We are paying 31 cents per pound for yellow beeswax, in lots of from 50 to 5,000 or more pounds, delivered at Syracuse, or 32 cents, if exchanged for white wax. If you have any wax on hand, and can deliver it at the above price, please do so, and we will send you our check on receipt of the same.

ECKERMAN & WILL.
7-7-'77 Wax-bleachers. Syracuse, N. Y.

Doolittle's Advertisement.

Having had many calls for wares used in our apiary, we have concluded to sell for samples, as below; that our bee-keeping friends, if they desire, may have a pattern to work by in making them.

Doolittle's improved Gallup hive with 30 boxes and cases and wintering arrangement all complete	$6 25
Standard Gallup hive with 21 boxes and cases all complete	3 25
The above are well painted, with tin roof.	
Sample set of cases with 21 boxes that will fit any frame hive at top 14x20 (outside measure) or larger	2 00
Sample case with 3 boxes	40
Sample case with 2 boxes (by mail 15c extra)	35
Sample box ready to nail (by mail 3 cts. extra)	03
Boxes by the 100 ready to use	2,50
Boxes by the 100 ready to nail	1 75
Tin tacks for fastening glass in honey boxes, sample by mail 6 cts.; per 1000, 40 cts.; per 5000, 35 cts.; (by mail 8 cts. extra per 1000).	
Block to nail boxes on (by mail 35c extra)	1 50
Block to tin boxes on (by mail 25c extra)	50

Address, G. M. DOOLITTLE,
12-4 Borodino, Onondaga Co., N. Y.

Every Bee-keeper should subscribe for it.

The American Bee Journal

Is the best scientific and practical Journal of APICULTURE in the world. The most successful and experienced Apiarians in Europe, as well as America, contribute to its pages. In fact, it is the *oldest* and *largest* BEE PAPER in the English language. **$2.** Per Annum. Send a Stamp for a Sample Copy. Address THOMAS G. NEWMAN,
tf 184 Clark st., Chicago, Ill.

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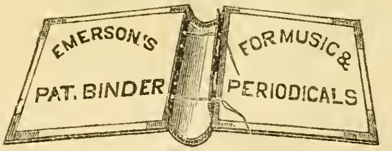

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Vol. V. MARCH 1, 1877. No. 3

OUR FRIENDS IN GERMANY.

WE presume the name of Gravenhorst, is sufficiently well known to interest at least a large portion of our readers, in the following very kind and friendly letter.

MY DEAR NOVICE:—I owe you many thanks for sending me GLEANINGS. What shall I do in return? Shall I write an article occasionally on bee culture? I must tell you that I know you through the *American Bee Journal.* The late Mr. Wagner sent it and I receive it to this day. I have read with much pleasure your articles in the Journal. Thus I have watched your endeavors to find out the most profitable way of managing bees in the best hive, the giving your bees bits of comb, and the wintering of your bees out of doors with the chaff cushions. This is very good, but I shall wonder if you will be satisfied in future with it. I have great respect for the American bee-keepers and I admire their results in every way, nevertheless I think you want a more practical hive than you have in use. Excuse me when saying thus. But let us see what is the chief matter in managing bees in movable comb hives. The greatest results by saving the most time and money: and wintering bees in the most profitable way. To get all this, depends upon a good hive. I am acquainted with all the American hives, but none of them will do it as I should wish it. A Langstroth hive I have received from a friend in America. may be a good hive, nevertheless it does not answer my claims. What would you say of a hive that enables you to attend 100 and more colonies without assistance? I have such a hive in use, and all the other hives I heretofore had are now in the lumber chamber. This hive is the very same the Englishman speaks of in your GLEANINGS, Vol. IV, No. 11, page 267, as the newest and best hive now in use in Germany. And in fact it is. The German bee-keeper, of whom the Englishman tells your readers, is one of our best apiarians, and will in future only use this hive as do the most German bee-keepers. In the book I send you, you will see an engraving on the title page. The hive is a straw hive and must be turned over to attend it. From its turning over results its good qualities. Should you like to have such a hive, I shall be much pleased to send you one, if you only will pay over freight from Bremen to Medina. The book I send you will teach you how to make such a hive if a friend is at hand to translate it, should you not read German. Of course many an American bee-keeper will be much pleased to see such a hive, and I do not doubt, will use it; above all you will have a new subject to write from in your paper.

I have two apiaries, each 150 colonies. My bee yards are enclosed on 4 sides with shelves. In the east side is a little work house through the windows of which I can watch every fly-hole. This little house is a wonderful place for a bee-keeper at leisure, and the whole arrangement is very good in spring time. As soon as the bees, returning from the field, come inside the yard, they are saved, as no wind will throw them to the ground where they perish. Without any other protection except what the hive and the bee yard give, my bees are standing on their shelves. Do not fear that the young queens, returning from their bridal flight, will be lost by standing so many hives near each other. In Hanover, about 6 miles from Brunswick, there are sometimes more than 300 old fashioned straw hives all together, and no more queens are lost than if the hives were scattered in a bee yard as shown in your engraving on the title page of your Nov. No., which came to hand to-day.

Yours in the bonds of bee-keeping,
C. F. H. GRAVENHORST,
Brunswick, Germany, Nov. 16th, 1876.

Many thanks, distant cousin, for your very kind and friendly letter. To hear from such dear friends away across the ocean, really does make one feel that with all other advances the world is making, we are yet to feel that we are in reality, brothers and sisters, even though of different nationalities, and though wide seas intervene. Tell us about bee culture in your land by all means, and rest assured our people will always be interested in such matters.

We have bee-keepers that attend to considerably more than 100 colonies, if we mistake not, and with the chaff hive pictured in Dec. No., we think one man could do the work required for twice the number, by changing work with a neighbor a part of the time. If we are making no mistake, bees in such hives should need no care at all, for almost 6 months in the year. As our hives sometimes contain nearly 100 lbs. of honey at one time, we fear our people will be loth to think it best to turn them over, to get the frames and honey out, notwithstanding, we have great respect for your experience, friend G. We are ashamed to say, that none of us as yet, read German very understandingly, but the girls are still at work with their books.

We are already pleased with the idea of having the bees enter an enclosed yard, as they come home laden; have you no house apiaries in Germany? We agree that there is little danger of losing queens, so long as the entrances are a couple of feet apart, unless in the extracting season. May the kind Father abundantly bless and prosper, the bee friends in Germany.

HONEY THAT WON'T CANDY.

ALSO, THICK AND "THIN" COMB.

I AM going to "tussle" with you for the head mark on "Honey that won't candy," (page 11 January No.). While at the river, after we had finished for friend McGaw, I extracted some for friend Jarvis and brought some of it home. The combs were capped over solid, clear to the bottom, very heavy and *awful* thick. Had to warm it before the fire place for a half day before I dared extract it ('twas the same with McGaw's). We keep it in a large stone jar in an out-door cupboard, where it has been below zero several times, once down to 20°below, and it is as clear to-day as the day we extracted it, and so hard you could scarce dent it with a hatchet (*fact*). And I will back the river honey as second to none in color, quality and flavor. It is simply delicious. This jar is kept from the light and air, while on the other hand, some that friend Cramer brought home from the same place, and has put up in 2 lb. bottles, which stands in the light and gets the warmth from a stove in a grocery, candied hard and white. So that it is not cold alone that causes it to candy. I also brought some comb honey from the river, which the Express Co. saw fit to break loose from the frames. The other day I got out a large piece of it to take to a purchaser, and laid it on a platter. When I went for it, I saw a curious kind of comb honey. It looked as though it had been set out in the sun at 90° for it was just as completely melted down as though by heat, and that too where it was below zero. It looked like nothing but extracted honey with a few scraps of cappings in it. I never saw such thick honey in such very thin comb. Guess the bees must have got out of wax about that time and had to spread it out thin.

WILL M. KELLOGG, Oneida, Ill., Jan. 15th, 1877.

There is certainly something very curious indeed about the candying of honey, and we confess to being quite in the dark, on many points in regard to it. At one time, it seems that light affects it, and again that it does not; at another, that it is certainly from intense cold, and yet we find it now standing zero weather, without a sign of candying. There is one point that seems well established, and that is that sealing it up as bees do, is nearly always a preventive, and we do not know that we ever saw any honey candy, that was sealed up while hot like fruit; the objection, however, to this plan, is that it is very apt to give the honey a darker shade. We think the best and cheapest way, to let it get fully ripened and capped over in the hive, as mentioned above by friend Kellogg.

It seems we are just beginning to learn also that bees vary the thickness of their combs very much. After friend Doolittle's experiment of striking a knife down to the base of the cells of a piece of comb honey, we one day tried it on some honey that was on the table, that had been cut out of the centre of a frame from the body of the hive; this was new honey, that had been built where a piece of brood had been cut out, yet the base of the cells was even thicker and harder than that of the white fdn. Some of the thinest comb we have ever found, was from California, and it was so very thin and frail, we can readily imagine a piece mashing down by its own weight, as friend K. mentions. Doolittle remarked that bees made thinner comb when the honey came very rapidly, and that they also at such a time built it clear up against the wood composing the sections. During the past season, it came so slowly, that they left a row of unfilled cells clear around, next to the wood.

WINTERING, A MODEL CELLAR FOR.

LAST season I increased from one to 3 colonies and one neucleus. As one artificial swarm failed to raise a queen the first time, I made a nucleus to have a queen to give them if they failed again, but as they did not, I had an extra queen, and what to do with her was a puzzling question. My stocks were not strong enough to divide, and make the fourth colony. I went and opened the box two or three times to kill the queen and return the bees to the old stock, but by the time I found the queen my heart would fail and I would say "she is to nice to kill, let her live a little longer," and by fall I found she had quite a little family, say a quart or more. Well, I began to think if I could only keep her alive until spring how nice it would be to have an extra queen should one of the other stocks become queenles, or to start an early new stock with in the spring; I then began to think how to winter my bees. Well, I got an old box ready to set one hive in and pack round and cover over on their summer stand, and was going to set one hive in my coal house as I did last winter and one in my barn, and then the nucleus. Well I was going to take that with me "to bed," or as near it as it would be well to do, or in other words take it right into the house where I could always keep it from getting frosted and still not too warm, and close the entrance with wire cloth.

Just about this time I discovered that I already had a place under my house on the ground large enough to keep 50 hives, as nice as a pin; not too cold nor too warm, nor too damp nor too dry; and where I could look to them day or evening. I go from my kitchen into my cellar, which latter is very small, and I had always thought rather too damp, to put bees in with safety. From the cellar I punched a hole through under the main house, where I have a space of from 2½ to 3 feet between ground and floor, and by digging a trench a few feet long and 3 feet wide and deep, I have a nice shelf to set my bees on. The ground there is gravelly and so dry that it is quite dusty and the temperature to-day is at 43° while it is at 10 outside; I have them all in there as nice and cozy as can "bee," nucleus and all. I have an outside window opening so that I can ventilate if I wish, and have also the tops of hives packed with hay to absorb the moisture. They have been there now about one month and seem to be doing as well as one could wish. Hardly a dead bee to be seen.—*Dec. 18th*, 1876.

Jan. 15th, 1877.—On examining my bees about the 8th, I was not a little surprised to find a nice quantity of *brood* in all stages from the eggs to capped cells in 3 out of 4 of my hives including my *nucleus* which had as much brood as any of the others. To-day I tipped back one hive and swept all the dead bees off, there were not more than 20 and they have been in their winter quarters about 6 weeks. How is that for high? Neither do I find that many have crawled out of the hives to die.

A. A. FRADENBURG, Cleveland, Ohio.

The plan given amounts to almost the same as that given for wintering nuclei, by friend Corbin, on page 16. Of course it will answer, for when we can get a place so dry that the ground is dusty, and so impervious to the frost that the walls and ceiling never get wet, we have almost the conditions of summer. It is quite an easy matter to secure such cellars in sandy or gravelly soils, but we find it quite difficult in the damp clay of Medina Co. Having the cellar built directly under the kitchen stove, is probably quite an item, for it not only keeps everything dry, but affords a ready means of getting perfect ventilation, by attaching a tube to the stove pipe, as has been several times explained.

FRAME, BAR, OR BOX HIVES, ETC.

DEAR GLEANINGS:—Mr. Langstroth uttered a great truth when he said many bee-keepers would be better off had they never used the frame hive, and we will add, had they never used *any.* In our experience (which is large) we have not seen one hive in 50 fit to put bees into, to say nothing about mangling and murdering in the vain attempt to handle them. Give us either a hive or a cook stove, or a steam engine at full speed would be preferred to some so called hives we have seen. Hayhurst of Kansas city comes nearer making *a hive* than any we have yet seen. A man to build a *bee hive* should be a first-class mechanic as well as a practical bee-keeper, *or rely on some one who is.*

Had H. A. King for the past 25 years worked with Langstroth instead of against him, apiculture to-day would have been much less mixed up, and many thousand less American *humbugs* for kindling wood. King was the man to push things, had he got hold the *other end* of the rope. Give us Heddon's *bar*, or even a box hive in preference to a badly constructed frame hive. Few, however, if any, esteem Langstroth and his system more highly than do friend Heddon and ourselves, for from his system we have become able at a glance from the outside, to judge quite correctly the condition of the interior. We regretted that Langstroth himself could not have received our $10.00 for a right to use the frame, etc. But so is life, one sows, and another reaps.

It seems to us that friend Doolittle should be able to reach the same results with half the expense and fixtures. Few stocks of bees, if in hives of proper dimensions, ever need a division board, in our opinion.

Yes Novice, please tell W. E. Forbes that heavy 8-penny finishing nails resting on plain metal rabbets *a la* Wm. Reynolds, beat Novice's tin corners all to fits. We use wire staples to hold frames at bottom and can beat any man handling bees who does not, all things considered, and can prepare 40 stocks for safe shipment in as many minutes. The value of fixtures about a hive depends almost entirely upon the *make and manner of using.* When we can no longer use nails and staples as above described about a bee hive, you may consider us as belonging to that department called "Bar box hives," which by the way will soon be practiced by some of our most skilful apiarists. 'Tis true an expert can get lots of honey from a roughly made hive and fixtures, but then it's so nice, Novice, to have everything about our hives *go* and *come* like clock work.

We suppose that friend Cameron is aware that Bingham is liable to slide off a big pile of nice comb honey just above those three little "sticks" he speaks of. Mr. Editor, should you ever visit Iowa give *us* a a call,we are but 10 miles from Des Moines, the capital of the state.

Yours and every body elses' for cheap, plain and practical facts. CHAS. HASTINGS & SON.

Carlisle, Iowa, Jan. 15th, 1877.

We fear our friend forgets that frames made with nails, must contain an amount of lumber that we never think of using with the metal corners, and they are not as strong even then. Nails *will* crush bees, unless you are pretty careful. Try a frame of each kind, it can be done very easily, before making a great number.

OUR OWN APIARY.

IT is very near the middle of February, and we have not lost a colony so far, although too many dead bees by far, are found at the entrances, and in the bottoms of the hives. This certainly should not be, for some few, have already lost half the bees in the hive, and a great many, have lost a pint or more. Even if but few are lost at a time, if the process keeps on all winter, the hives soon become too much weakened to resist the effects of the spring dwindling, and are lost after having consumed enough honey to carry almost any colony safely through. This losing the bees after they have eaten honey all winter is certainly more *expensive* than the old brimstone way, but we feel sure neither are necessary.

The most of those in the chaff hives are, as we have said before, wintering almost without loss, but we are troubled at finding one or two of even these, bringing out a great many dead bees. Still further, several of the hoop hives are wintering as well as any in the apiary; we do not know that we feel particularly bad about this, but after all it is rather perplexing, and inclines one to feel that bees sometimes winter well in spite of—of—learning (?) and at other times, they don't winter well in spite of all we can do. The Quinby hive is again wintering as it did last winter, almost without the loss of a single bee. The bees do not fly in this hive, until the weather is very warm indeed, and not until almost every other hive in the apiary is out. This hive has perhaps a more perfect protection, because the chaff is in one continuous body all over and around the bees, while the cushions, unless we are very careful, will leave cracks or interstices between them.

One hybrid colony that resented any interference, were put into a chaff hive in Dec., and to get them into a small compass, a cushion was put each side of them; they were put on combs of solid sealed honey, and were so crowded, that they did not all get inside until the weather was quite cold. Not a dead bee was seen at the entrance of this hive, and we have no fear but they will winter as well as the Q. hive. So much for "learning." On the 9th, we found a colony with more than half the bees dead. This hive had brood taken away from them the last thing in the fall, to strengthen another; they had honey in the ends of the combs, but none close to the cluster, and their hive had a chaff cushion only over the frames; it was an old style Langstroth. We put them into a chaff hive, and pushed them up close, on 4 frames well filled. If these are saved, we shall give chaff all the credit.

Perhaps half a dozen of our L. hives were left with no entrance blocks, and everyone of these showed an unusual quantity of dead bees; we are well satisfied that the entrances should be closed up small, tight and warm, for winter, and would favor a single auger hole, a little above the bottom board.

What a fine thing it is to have plenty of sealed honey in frames. In looking over the bees, we find occasionally, a colony that for some reason, is a little short, and as we always like to make things safe—when we have the wherewith right at hand—we take them one or two of these heavy combs, and it is just fun to feel that whatever comes, they will have a plenty anyhow.

CHAFF PACKING, ETC.

FRIEND ROOT:—A look at your bees during the warm week just past has probably seated you more firmly on your chaff packing hobby. The entrances to your packed hives are nearly or quite as free from dirt as in mid-summer, while many if not all of those not packed have the front covered with filth and nastiness. Under the former too you find but few dead bees, perhaps from a tablespoonful to a teacupful under each hive, while under the latter you find on an average, a quart or more.

The comparative amount of brood too, you have found equally in favor of the chaff packed bees. How is it friend Root, arn't we correct; won't you swing your hat in the next No. of GLEANINGS.? Take my word for it, you can ride that horse straight ahead so far as success is concerned, without any fear of being obliged to back up.

If your friend Wing fails to secure straight combs by following your advise, (page 15), and if after wintering his bees somewhere else than in his hen house, they still persist in making them too crooked to handle well, let him take them from the hive before the honey is sealed, extract the honey, lay them on a smooth, planed board some larger than the frame, and with another board on them, press them firmly into their place in the frame, and he will have every comb as straight as a board.

We accept friend Doolittle's amendment (page 41), with thanks, and as we have never been very well pleased with our success in building up stocks by spreading the brood combs and inserting empty combs between them, except in warm weather, (perhaps it was not judiciously done), while he has succeeded, we hope he will give it a fair impartial trial just as he directs, and report the result. If such fussing with bees will pay in hives that are not protected, it certainly will in such as are, because one can not only commence earlier, but later in the season he can spread the brood without risking its loss.

When we brought this chaff packing arrangement before the public it was not done for the purpose of grinding an ax or seeking notoriety. We have nothing to sell in the bee line except honey, and we can find a ready sale for all we can get of that at a paying price. Neither do we take any particular pride in seeing our name attached to the end of a newspaper article. The experience of the last five or six years has clearly demonstrated that heavy losses are sustained throughout the northern states by all other methods of wintering bees, and with the hope that perhaps this loss might be avoided, we have tried to induce others to give the plan a fair, impartial, unbiased trial and report the result, as "By the mouth of many witnesses the truth is established."

Friend D., are you quite correct in your figures in relation to the number of workers in your hives? Can you get and keep for 45 days 8 out of 9 frames filled with brood after making due allowance for honey, corners and pollen? Again, you estimate 5 cells to the inch, which if made by black bees is probably correct, but if made by Italians you can not count more than about 4½ which would materially lessen the number of bees. J. H. TOWNLEY.

Tompkins, Mich. Feb. 8th, 1877.

COMB FDN. MADE ON CLOTH OR PAPER, ETC.

FOR some time past I have read the complaints about fdn. "sagging" in the frames, especially in large brood frames, and in vain I have looked to your inventive genius to produce a remedy. Now allow me to direct your attention once more to my books; on page 35 of "Bee-keepers' Guide Book", and page 39 of "Am. B. K. Guide" you will find that Kretchmer (my father) invented and used comb foundation, having *tracing linen* for a base, being coated with wax, which the bees perfected into comb and used as brood comb. Now don't you think that fdn. made in the manner indicated must prevent all sagging? Of course such fdn. could only be used in brood frames, but there is the place where the difficulty is most damaging. I enclose you a specimen from a large roll of the kind of tracing linen then used by him, it is the exact width of strips of fdn. manufactured by him, and no doubt a much *finer* article may be found in these days. And as regards the bees working on them, father told me several times that the bees used them as though they were natural, using the comb for brood and honey, making no distinction from natural comb, and no doubt, if the bees used them then, they will to-day. I trust you will give the above a little thought and perhaps furnish us with fdn. that can't sag in the brood frame. E. KRETCHMER.

Coburg, Iowa, Jan. 20th, 1877.

Many years ago we tried making fdn. on cloth and paper, and succeeded very well with thin tissue paper, but all our experiments on cloth, even the thinnest we could get, were failures, simply because the bees would occasionally get hold of a thread and then they would tear the cloth all out, apparently thinking it a moth web. Since receiving the above, we obtained some very fine book muslin, and also tried the tracing linen, but although we can make beautiful fdn. on both, the cloth makes the base of the cells so much thicker than where we use wax alone, that it will add to the weight and consequently to the expense, while the clippings will be entirely out of the question for comb honey. It may be urged that a fabric may be made, inestimably thin, but even then you add to the expense of every square foot, and in large quantities it makes quite an item. If anyone wants it with a cloth base, we can readily furnish it, and it will certainly do away with all complaints of stretching and bulging, as in fact will that made on tissue paper.

PATENT RIGHT BEE HIVES, EXORBITANT PRICES, UNTRUTHFUL AND DECEPTIVE ADVERTISEMENTS, ETC.

WHAT SHALL WE DO WITH THEM?

LAST month several letters had collected from parties who had been deceived and somewhat wronged in the purchase of various articles, some from those who had purchased on the strength of a warrant that was not good, and letters from others who had suspicious advertisements in some of the journals, and for the sake of preventing our readers from being disappointed in the same way I proposed making the whole into an article as a warning both to the advertisers, and their too incautious customers. The article was studied up, and but so often as I sat down to the task, did I feel that it was going to be too harsh, and desisted. In asking my heavenly Father to enable me to do as I would be done by, I saw that I was almost unconsciously exaggerating the faults of these brothers, and withholding their good qualities; yet some note of warning should be uttered, and to save the people's money, it should be uttered at once. I finally let the Feb. No. go out without a word, just because I saw too much prejudice in my own heart, to allow me to write an unbiased article. I prayed that I might be freed from all this, and I will tell you how the prayer was answered.

I confess dear friends, that a prayer meeting is not a very interesting place to me, unless there is something to be done, and something being done. We had been having such meetings every evening for some time, and like many others I suppose, they were poorly attended, and not always very interesting. As I passed the hotel on my way there, I often remarked to myself, how many young men were there congregated that could, if they were only led to look at the matter in a proper light, help us as well as themselves, *so* much. One evening I asked in one of our young men's meetings, how many had the courage to go and invite these brothers to join in with us. The idea cast a silence on the meeting, and finally was decided to be hardly a proper one. A couple of weeks passed, and in one of our meetings the prevailing scepticism of our town was mentioned, and our perfect helplessness in the matter. We knelt in prayer, and asked God to tell us what to do. Before I had even taken time to consider the matter, I recommended that we go out into the streets, and work, as we had tried in vain to have unbelievers come to us, and I volunteered to commence. I repented of this, as I took a good look at it, and had I not publicly committed myself, I fear I should never have got up the courage. Sabbath afternoon after walking home from my Sabbath school, I took one street and called at every house, asking them to come out to our young men's meeting, and aid us by their presence and influence. To my astonishment, they pleasantly assented, and did come nearly all of them. Thus encouraged I spoke to the boys in the streets, and they too, came along pleasantly, but when I got into the meeting to which I had invited them, I could but feel that those inside, needed the benefit of the street work, nearly or quite as much as those who didn't go to meeting at all. The task that looked so formidable, was in reality no task at all, after we once bowed humbly to the Lord, and asked him to give us that love for all these people, that we must have to ask them all to come with us to meeting. The first house I visited was easy enough, but the second was the home of one whom I had criticized harshly; a little farther on was another where they sold liquors, and I had talked all manner of hard things about them. Could I hope they would come with me to meeting with such thoughts as these against them? Most certainly not; I could not skip, for I had advised calling all humanity to the Lord, and I could not hope to have influence unless I was truthful. The way, that straight and narrow path, lay right before me; it began to be plain now, and it was to get every bit of unkind and unfriendly feeling out of the way. If I had undertaken to invade people's homes, woe betide me, if I did not do it with that genuine love for all, that our Saviour showed when here on earth.

After another day's work of this kind, as I approached a house the thought came, "How about peddlers now, Mr. Novice? would you advise shutting the door in their faces?" I stopped and almost said aloud,

"May God forgive me for the unkind way in which I have spoken of and treated these poor brothers, even if they have been in the wrong, and may I ever in future bear in mind that he who needlessly gives any fellow being pain, certain forgets the real spirit of christianity."

"How about your advice recently to your readers, to make any kind of hive or honey box they pleased, *regardless of patents?*"

That too was wrong, and may the friends whose feelings I have thus wounded, forgive me. I feel more than ever before, the evils that have grown out of selling rights, but I now see that I have no right to advise taking by force what some may feel to be their own property, and which our laws allow them to hold, even though it may be wrong for them to sell it. I have no right to smash the bottles in a groggery even though the owner may be using them to send my neighbor down to ruin, but I can go to both and talk and pray with them, with their consent, and assuredly, the latter course will do more good than the former.

A few doors from me, is another jeweler, and I have been able to see this week for the first time, that when I have looked in at his window, it has been with a sort of disdain or envy, and since he has failed in business and taken to drinking,—may God forgive me—I have looked in at his humble stock feeling, "Well *he* don't amount to much now, and he will soon be out of the way." And yet I thought I was a tolerable Christian. In this work among the boys in the streets, I met this man, and God showed me my inconsistency. I asked him to come along with us and help us in our Christian work, and in one short week, the man stood up in our morning circle of praying workers, and said that with the Lord's help, he would never drink another drop. Do you know how much I thank God that I can *now* look into this window with something of the same feelings I would have if the shop belonged to my own son? Shall we lose by loving our neighbor as ourselves? Most certainly not, but we shall get into the very spot exactly, to build up a great business. I have for some time been in the habit of sending for all wares, books or implements, advertised for bee-culture, and when the article received was not worth the money, or was not what one would expect from the description, I have warned our readers, as you may all know, and very likely much money has been saved by so doing, but have I always done it in the real spirit of kindness? I have implements for sale, and is it not possible, that I have been exhibiting some of the spirit toward other makers and dealers, that I did toward my neighbor the jeweler? You who have lost your money, may say that it is of course right, to publish letters from those who complained, but should we not be very careful?

DEPOSITORY OF
Blasted Hopes.

Or Letters from Those Who Have Made Bee Culture a Failure.

TO make a long story short my report for "Blasted Hopes" is about as follows: August 1st I had 80 stands of bees all doing well as I thought, and had 9 swarms after that, and yet I now have but 68 and I fear they will be reduced more before spring as we are having a very hard winter. Now for my years work; 46 stands in the spring, 86 now, with probably 50 L. frames from half full to well filled with comb. Took 511 lbs. extracted honey, $104.95. Box honey 101½ lbs., $28.87. Sold my nicest box honey at 30c. and what was not well finished up, for 25c., making a total of 612½ lbs. $133.82. I suppose I had some 200 lbs. more in boxes Aug. 1st, not capped, which the bees used up. The clover crop of honey was the best I ever saw and there was about 12 acres of buckwheat about 2 miles off, sown in the spring for manure and plowed under about Aug. 10th. This I think kept my bees swarming; had 7 swarms in July, (never knew of a swarm in July here before) and not one of those, nor the August swarms got their hives more than half full, and some did not build more than 2 frames of comb, cause I suppose very wet and cool weather.

C. T. SMITH, Trenton, Ill. Jan. 13th, 1877.

AVERAGE YIELD PER COLONY.

HOW SHALL WE CALCULATE IT?

PLEASE let me know how you calculate the yield of an apiary? Is the average to be taken from the amount of colonies you start with in the spring or from the amount of stock at the end of the season?

PAUL L. VIALLON, Bayou Goula, La.

We are glad you mentioned the matter, for there seems some little difficulty and possibly a little misunderstanding about it. If we start at the first of May as the beginning of the year, and this certainly will be the best time in our Northern localities, for there is always danger of losing bees before that time, we can easily reckon how much honey we get from them during the season. Now if we entirely prevent swarming by the use of the extractor, we have only to divide the number of lbs. of honey, by the number of stocks we started with; simply state that we started with so many colonies, and obtained so many lbs. of honey. If we should start with 10 colonies and get 250 lbs. of honey, it would be a very moderate yield, while 50 lbs. per colony, for that number would do very well. If we get 75, we might "brag" a little about it, and an average of 100, would be quite an item. It would also be very simple, to reckon increase alone, for a statement that one commenced with 100 and doubled the number—had 200 on the first of May the next year—would be very easily understood. Now how shall we combine the two, or at least agree on some way of stating the whole matter in a few words? The honey could be reported very easily, as soon as the season was over, but the increase—we hardly know how it can be definitely stated until the first of May comes again, and our Young Americas, will never have the patience to wait 6 months, before telling of their great achievements.

Again, suppose we get two tons of honey from our apiarie, and then have to pay out more money for sugar to winter them, than we received for the honey; what sort of a report would that make?

We really know of no better way, than to say: I started with—colonies the first of May; increased to—all ready for winter, and obtained—lbs. of honey that has sold for $—.

We might assume that a colony of bees ready for winter, is on an average, equivalent to 50 lbs. of honey, and then we could make a comparison of results that were either honey or increase, or both.

HOW TO SELL HONEY, WINTERING HOUSE, HONEY GATES, SECTIONS, ETC.

I WROTE you in Sept. that I had sent out a peddler. I found a good man for the business and the man found the business good. In the course of a month he sold 2,200 lbs. and didn't half develop the market. He would take out about 150 lbs. and not go so far as to stay away from home over night. Would sometimes sell out entirely. Quantities were sold from 1 lb. to 50, and in one instance 150. The people began to get used to his appearance and would stop him for honey and many would insist on his coming again. We find that extracted honey sells the best; but comparatively few would purchase it in the comb. We sold extracted for 20 cts. by the single pound, and at 15 cts. if ten or more lbs. were taken. We received some complaints from people who were unacquainted with the nature of honey, they thinking that the candying was a sure indication of adulteration. We shall send out printed instructions another year and try to educate as well as to sell.

Our bees are wintering well thus far in our new bee house, built nearly like the one described on page 133, Vol. II GLEANINGS, only we have an extra story for storing empty hives and boxes. Our house is 12x18 inside the bee room, and with 90 swarms has remained at about 40° and we have had some severe weather and long continued. We have 5 swarms packed in chaff and they are now entirely covered with snow. We never had fears of bees dying during the first half of winter. we claim that they will winter thus far in any place either out-doors or in, in perfect safety, at least that is our experience. but from Feb. to the first of May we are anxious for our little pets.

I want to scold you a little about your honey gates. I ordered six of you last spring and was disappointed in their size. New honey will get out fast enough but late in the season it runs slow, and our peddler found them refusing to do duty on cold days. For this latter purpose a gate as large again as the ones you sent me are needed.

Do you know, friend Novice, you have *stolen* our idea in relation to our section frames? We saw our grooves in bundles on a steel track but we hold the pieces together with a screw clamp. We purchased a lot of candy boxes this summer that were put together in a similar manner.

We hope to send you a photograph of our apiary next season. J. H. MARTIN.

Hartford, N. Y., Jan. 22d, 1877.

Your plan of selling honey, is the right one without doubt; it wants some life and energy to succeed, of course, but so does bee-keeping in all its departments. We agree also in regard to wintering; with us, the "tug of war" comes in March and April. We are glad you mentioned the gates; we have increased the size once, and shall have to do it again, if they do not let the honey out. When it gets very cool, we have to abandon the gates, and scoop the honey out at the top of the cans. Glad to hear you were first on the "steel track," but although ours is "steel," it was not stolen. Please send along the photos, that we may be able to make judicious selections, for our first page. By the way, will our friend who has 200 box hives, send us a photo, that we may present both kinds of apiaries?

REPORTS WITH BEES FOR 19 YEARS.

BY J. L. DAVIS, DELHI, MICH.

year	No. hives in spring	New swarms	lbs. surplus honey	kind of hives	kind of bees	season	price of honey	profits
1858	24	20	330	box	black	good	10 cts.	$33 00
1859	24	40	495	box	black	good	10 cts.	49 50
1860	46	72	684	box and frame		good	10 cts.	68 40
1861	60	4	650	box and frame	black	poor	6 cts.	65 00
1862	72	100	2200	L. frames	black	good		100 00
1863	109	3	200	L. frames	black hybrids	poor	12 to 15	50 00
1864	55	35	550	Langstroth	hybrids	middling	20 to 25	136 90
1865	53	100	1800	L. hives	pure and hy's	good	box 22 ex. 20	259 55
1866	53	50	200	L. hives	pure and hy's	poor	25 to 30	60 00
1867	50	100	471	L. hives	pure and hy's	middling	25	117 75
1868	56	100	736	L. hives	pure and hy's	middling	25	197 75
1869	50	100-	305	L. hives	pure Italians	poor	25	76 25
1870	46	100	557	L. hives	pure Italians	middling	box 25, ex. 15	171 45
1871	50	80	1330	L. hives	good Italians	good	box 20, ex. 15	276 78
1872	38	112	700	L. hives	pure Italians	middling	15 and 20	338 85
1873	49	65	1732	L. and Davis	pure Italians	good	15 and 20	437 18
1874	46	66	2999	Davis	pure Italians	middling	10 and 20	655 75
1875	39	90	4000	Davis	pure Italians	good	10 and 20	648 29
1876	51	75	3500	Davis	Ital's; Albino	middling	10, 12, 16	378 75

SIZE OF HIVES.

IMPORTANCE OF HAVING THEM EXACT.

It has been claimed that a queen bee will lay 3000 eggs in 24 hours. If this be a fact, then she will require 63,000 cells in which to deposit her eggs. This will keep her occupied for 21 days, when the eggs first deposited will be hatching, and she will again have room for continuing her work. We will say that it will require 1200 cells to hold the honey and pollen. This will give us 75,000 cells for the wants of the brood chamber. Any one can determine for himself as to the shape and size of the frame he desires; whatever the shape, it will require the number of cells given. A Standard 10 frame Langstroth hive contains about the number of cells given. To find the number of frames required for a hive, set your dividers 1⅜ inches, then mark off on the rabbeted end and at one side across the hive, then back again setting the dividers at opposite side of hive; this will give you the spaces for the frames, and the ½ inch space between frames. A worker cell is 7-16 inches in depth, this on each side makes worker comb ⅞ thick. Frames should be placed 1⅜ inches from centre to centre, this allows ½ space between combs which gives an abundance of room for two rows of bees to pass back to back.

I have always thought a Standard Langstroth hive was 18⅛ inches in length, 11⅛ inches in width, and 10 inches in depth, and have always so made mine. I notice you make them longer and wider. The size I use is the measurement given by Mr. Langstroth in his book. Some nine years ago L. hives were made in Burlington, Iowa, by the thousand; I ordered some for myself and friends, and when I went to use them, found they were only 17½ inches in length and about 9⅛ deep. My Standard frames when used in them were *tight fitting* on the ends outside which was a terrible annoyance to me. Why cannot we all have our L. hives made of one size, so that when we buy bees or sell them or buy hives the frames will work in one just as well as another?

T. G. McGaw, Monmouth, Ill., Jan. 29th, 1876.

To be sure we were right in regard to the size of a Langstroth hive, for we sent to Mr. L. direct for a frame just right. The frame is now in our possession, and measures 17⅝x9⅛, and the projections for the frame to hang on are ¾ at each end. As it seems generally agreed that ⅜ is the proper space at the ends of the frames, a Langstroth hive should measure exactly 18⅜, between front and back as we have directed many times before. The width of the hive is less essential, but as nearly all the hives for 10 frames that we could find, measured 14¼ inches, and as we find it to work about right in practice, we have taken that dimension. Hives are usually made of planed inch lumber, and as this averages about ⅞, we have left a guage with our planing mill men, and we insist that every lot of lumber shall me made *exactly* ⅞. This would bring the outside of the hive, 20⅛ long, by 14 wide. Now to be sure that none of the frames are ever pinched, we will add ⅛ more to the length, and therefore we have made the iron frames for guages of the outside of the hive, just *twenty and one fourth long*, by *fourteen* inches wide.

◆

LITTLE "SUN BEAM."

DEAR NOVICE:—You have the picture of my little "Blue eyes" in the "Medley of Bee-Keepers," perched above the head of Mrs. Langstroth. She often says, "I should think that lady would get tired of holding me on her head." You call her in the Medley "Another Blue Eyes" now we call her here at home "Little Sun Beam" because she sheds light, happiness and good cheer, wherever she goes; so even the neighbors are getting so they call her "Little Sun Beam." Well, I thought I would make you a Christmas present to-day, and send you another picture of our "Little Sun Beam" and let you see how much she has improved since April 1875. She is still my little bee-keeper, and you have no idea how much she helps me; when I am opening hives she keeps run for screw driver, or the turkey wing and smoker, and if I wonder where that big pen knife or screw driver is, she says "I know pa, you left it down where you opened that last hive. I'll run and get it." When extracting she will carry the empty frames back to me and run errands, and make herself generally useful when a swarm comes off. Master Willie, 13 years old, is afraid to come near for fear of stings; but "Little Sun Beam" scarcely ever gets stung, and if she does, she never quails nor gives up but comes back again. I have seen her stung five or six times at once, and what is strange it scarcely ever swells the least bit, neither does it make her timid. I wonder at it sometimes.

One Sunday I was walking among the hives and a drone with his big hum frightened her so I caught him and showed her that the drones were big fellows that would not sting, then I caught a dozen or so and put them in her bosom. and told her to go in and tell mother there were some bees in her neck; of course there was some scrambling and striking and brushing for a minute until mother said that it was one of "fathers tricks." I told her the drones were great fat fellow that did not gather any honey, but were always eating. So I killed a great many of them, and she got so she knew them and caught them too. Well, that same afternoon we heard a loud scream and crying in the yard, and as we all ran out "Little Sun Beam" came running in and we couldn't get her to tell us for a long time what was the matter; but she said at last the great big *rooster* came right along and bit her right on the leg. So after awhile I got her to show me the place, and right on her little leg I pulled out one or two bee stings. I took her by the hand and walked up in front of the hives and after awhile I saw marks of a little foot and some dirt and dead bees on one of the alighting boards and I said "I wonder who has been here killing my bees." So she told me she was killing drones with her little foot and the bees came out and stung her on the leg. So you see I had to give her a Sunday lesson, but she wanted to blame all her trouble to the rooster because he was there and she thought the bees would not have stung her if the *rooster* had not made them, by crowing so loud. We would like to see another picture of *your* little Blue Eyes and hope she is growing nicely and healthy.

W. H. SEDGWICK, Granville, O., Dec. 25th, 1876.

We are so much pleased with the picture, that if we thought it possible for an engraver to do it justice, we would try and give all our readers a view. Our remarks on courage, in the Home column, are well illustrated by the behavior of "Little Sunbeam," and we have more than once seen children take stings with a courage that would do credit to our veteran bee-keepers. Of course they are seldom stung, for one who braves danger manfully, rarely gets hurt. Our "Blue Eyes" has just this minute come all the way from home alone, to bring papa's handkerchief, and we fear we shall have to call her "papa's big girl," hereafter, if she continues to grow so rapidly. Teach the children to become acquainted with, and to love the bees, by all means, and while you add to their pleasures, you will find they will soon save you a vast number of steps, about the apiary.

* * *

ITEMS FROM MINNESOTA.

As I have been laid by with fever and am still confined to my room, I thought I might bother you with a few bee items just to kill time, and if you should find anything that would be interesting you can publish it. I have just been into my bee cellar this evening and I find them quiet and to all appearance doing finely; they have been in the cellar over three months, (put in Oct. 17th). Page 10 Jan. No. GLEANINGS. Does not Prof. Cook make a mistake in regard to Cleome being a Minnesota bee plant? We have acres of Anisatus and it is a great help to the bees.

HOW TO STOP ROBBING.

The robbing of bees frequently takes the starch entirely out of new beginners. To give them a quietus fill a sponge (with one flat side) with cold water, pin over the entrance so they will have to rub their backs to get in.

HOW TO GET BEES OFF THE COMBS.

To get Italians from the combs, dip a wing in water then flirt off the water so as to leave the wing damp.

FEEDING IN THE SPRING.

Last winter I had two swarms that had 10 lbs. of honey each, bees just about the same. From the first of Feb. I fed one of them all the sugar I could dip with a spoon every other night. The one I fed used every bit of their honey, the other went through the spring without a single feed.

MICE.

Last winter the mice were determined to ruin my bees. They would make nests in the quilts and in the hives. I first shut them so closely that the mice could not get in, but it soon made them wet and sickly. I then got two cats of the best breed I could find, and put into the cellar. But that did not stop them, the cats tipped one swarm off the shelf, threw every comb, bees and all into the dirt; some of the combs were smashed. I gathered them up and saved them and worked among them hours nearly every night for about two months and saved every swarm. I sent to you for wire cloth to fix them with this winter, but changed my mind. I have my shelves built on posts with a tin pan bottom up under the posts, and now not a mouse gets to them.

FRAMES WITHOUT BOTTOM BARS.

Last spring I cut the bottom bar from one comb for the centre of each hive. I like the plan so well that I propose to cut the bottom from all my combs. My combs are 12x12. Now I propose to cut my hives down to just 10 inches and cut the combs to fit and leave them without bottom bar. For new frames I will put a thin strip of wood on bottom of frame with No. 10 tacks. Soon as the frame is filled with comb draw the tacks with pocket knife. If you do not like the plan please criticise sharply.

QUILTS, TACKING ONE EDGE TO THE HIVE.

You recomend some one to leave the quilt glued to one side. Now from that I caught an idea that has been beneficial. Tack the quilt with small tacks across the end opposite the division board.

UNCAPPED HONEY.

At the close of the honey harvest last fall my 17 hives were nearly filled with uncapped honey, all except my River Styx and a hybrid swarm. I made them cap the honey, all but one swarm which I put away with nearly all uncapped stores. It was a light swarm and I crowded them on to four combs. The hive has smelt like a vinegar barrel but the bees appear perfectly healthy yet and they do not smell so sour as they did. C. W. PARKER.

New London, Minn. Jan. 22d. 1877.

We do not know about the bee plant, nor are we able to find in our botany the other plant you name.

We think the wet sponge might answer before the bees were well under way, but then, we fear they would pay little attention to the wetting. We shall try the dampened wing, but do not see just how it is going to get the bees off.

You did not say whether the fed colony, was in any better condition than the other; please tell, and then we shall know whether the feeding paid expenses.

It strikes us we would get the mice clear out of the cellar, whether they worried the bees or not. Persistent trapping, will usually wind them up.

We have used frames without bottom bars, but objected to them, because they were so easily injured. It is not safe to lay them down or stand them up anywhere, you must always hang them up, as they hang in the hive. Also, unless you make the upper corners very strong, by some clumsy block, or otherwise, you will have the end bars getting too near, or too far from the hive. We appreciate the advantage of the extra room that you get along the lower edge, and the easy access the bees have to the combs, from having them built just as near the bottom of the hive as they want them.

You must draw your tacks in the quilt, when you wish to use the upper story. Is not the gumming that the bees do, enough?

OUR MUD HUT ETC.

WE are requested to tell through GLEANINGS how we constructed our mud hut, which was spoken of on page 8 January No. We have a small knoll near our bee yard, into which we dug a hole 18 feet long, 7 feet wide and 8 feet deep at the back, and 3½ in front. We then dug a trench or drain all round it, which is 10 inches deep at back corner and 16 at front, so to make the bottom dry if it ever should become so wet that water came into it. We next set on each side 4 posts 4x6 inches in the bottom of trench, setting them 6 inches deeper than the drain, and then filled the drain with small stones. Next, we nailed to sides of posts inch hemlock boards up to the top of posts, which were 6 feet above the bottom. On top of these posts we nailed 2x6 hemlock for plates. Then put on rafters 2x6 giving the roof ½ pitch. To put in the back end, we spiked to each end post, three 2x8 scantling, and to these nailed the same kind of boards the sides are made of, only they run up and down while the sides were horizontal. The rafters are 2 feet apart and are covered with the same kind of boards for roof as the side. The front end is made by placing 2 posts 2 feet from each side (which leaves 3 feet between them for a door way) from the ground to rafters, nailing boards to them and to corner posts. Four feet farther in front are set two more posts, and boards are nailed from doorway posts to these on each side and over head. Now fill in with dirt till we come to the roof. Then put on the roof, 6 inches of straw, then a foot of dirt. Then 6 inches more of straw and another foot of earth, also the same around and over the doorway. It will be seen that there is no place with less than 3 feet of straw and earth. For doorway we use an inner door, an outer door and one between the two, which makes 3 doors with two dead air spaces of two feet each. For ventilation we use 2 tubes made by nailing 4 boards 8 inches wide together so as to make a 6x8 inch hole through it. The bottom one is 12 feet long and is put in the ground below frost so as to warm up the air before it gets into the hut. Upper one is the same size and at the opposite end. By making 2 elbows on each one it will entirely exclude the light. To know the temperature we have a tube go through one side of the roof through which we let down a thermometer, which is examined every day and the temperature need not vary more than 2 degrees all winter. The cost of such a hut need not exceed $40. and will hold 75 stocks.

CHAFF PACKING AND SPREADING BROOD.

Will Novice please tell us when fruit trees go out of blossom in Ohio? Townly tells us on page 5 to leave our bees packed with chaff undisturbed till after fruit blossoms, and Novice says Townly referred only to chaff packing before the first of May.

We think if Novice's Quinby hive had been here in York State he would have had to let the bees fly by taking off the covers, if they flew at all, as the snow was 4 feet deep all over our yard. We are willing to sacrifice a little of our time when it comes a warm day for the pleasure it affords our bees in having a jubilee, and as far as we can see they are just as ready to fly from the top of the hive as they are from the bottom after we have spent ¼ of an hour shoveling away snow.

G. M. DOOLITTLE.

Borodino, N. Y., Feb. 12th, 1877.

Fruit trees blossom here about the middle of May, and if the hives were covered with snow until that time, we really believe we should risk them without a fly, if they could not fly without shoveling snow, or lifting covers. With us the snow thaws next the hive very soon, and the bees sometimes crawl up the side of the hive to get out, and go back safely the same way. We certainly cannot afford to fuss with the entrances at every unusual change of the weather. At present—Feb. 23d—nothing can be nicer, than the way the bees have wintered in chaff hives, and although the entrances have been open full width all winter, no dead bees are found, no frost has been seen inside, and the amount of stores consumed, will certainly compare favorably with anything we have ever seen with house or cellar wintering. They have had no care, and will need none, until they commence to gather honey.

FOUL BROOD; REMEDY FOR.

EARLY in the spring 4 years ago, I had a small stock of bees in an L. hive. They did not increase for some cause, and I gave them brood from other stocks, but with no good result. At last I found that the brood was dead, and the young larvæ being turned into a dark gray matter smelling very badly. By this time I examined my bees fully and found that 13 of my best stocks were affected with this disease. This brought much alarm to me at that time, not knowing the disease; so I enquired of my brother bee men but to no use. I got bee books and journals and in them found the disease described, but they could tell me no cure. One said to use carbolic acid. I experimented by taking all this comb from one but such as were filled with honey, and cleansing hive and comb with carbolic acid, but failed. I then tried changing the bees to a clean hive and gave them dry comb, and in that I failed. I tried the third time by taking the bees to a clean hive and waiting 40 hours till they consumed all the honey they had with them, and that proved a success. In the fall I transferred all the bees that were affected with this disease in same way, waiting 40 hours, and then gave them 4 combs well filled with honey, and the next spring they were all cured. About this time, P. Byseker had 6 swarms affected with this disease, and he cured them in the same way. Almost 4 years have passed and yesterday I was at his place. He had 15 swarms in the bee house and I helped him take them out; 5 were dead, 4 weak, and 1 had 3 frames all filled with foul brood, and there being only about a quart of bees left we killed them at once. Now the worst comes; as this swarm was very heavy he took one rack of honey and placed it in some other swarm and now does not know which one. Please inform me what course to pursue to find where the rack is, for I am confident that the swarm that has the rack will get diseased in the spring or early in the summer. My opinion is that the disease was caused by dysentery, for the bee house was built last fall and every thing was too green and damp.

Went into winter quarters with 98 swarms of bees; 21 in house where they can fly at any time they choose. 20 in cellar, 31 in bee house, 3 in dry goods boxes packed in sawdust, and 23 on summer stands or rather in a temporary bee house made of one thickness of boards, where they can fly at their leisure. In spring I will tell you how they get along.

H. KNAPP.

Warren, Penn., Feb. 16th, 1877.

We fear you will have to wait until the disease appears, before you can find the frame so carelessly risked in another colony. We think you in error about dysentery leading to foul brood. Tell us how the temporary house apiary winters, by all means.

GLEANINGS IN BEE CULTURE.

Published Monthly,

A. I. ROOT.
EDITOR AND PROPRIETOR.

MEDINA, OHIO.

Terms: $1.00 Per Annum.
[*Including Postage.*]
For Club Rates see Last Page.

MEDINA, MAR. 1, 1877.

Brethren, if any of you do err from the truth, and one convert him; let him know, that he which converteth the sinner from the error of his way shall save a soul from death, and shall hide a multitude of sins.—James, 5; 19, 20.

OUR new price list and circular will be mailed with the next number.

TIN has come down, and we are feeling particularly friendly besides, so we have reduced the price on corners to 75c. per 100; metal cornered frames, 5c. each. We shall also, this season, give a honey knife with each extractor. If you have a knife already, the price of the extractor will be $1.00 less without it.

YOU can curve the blades to our honey knives to suit your taste, by simply springing them them in your hands. Use a cloth, and be careful not to cut your fingers, as you move it on a close curve toward the point. If you afterward prefer it straight, you can take out the curve by the same process.

THE *World* has been sold to the *Magazine*, so that we have now only three Bee Journals in America. We furnish the three for $4.00, and for $1.50 more, the *British Bee Journal* also. Those who have sent us money for the *World*, will receive the *Magazine* instead, and if already subscribers, their time will be extended another year.

THE Quinby smoker has been very much improved since last season, and is now a very pretty as well as durable implement. Stronger leather is used, it is more securely put on, and the smoker can all be taken apart, when any part fails. Price $1.50; if sent by mail, $1.60. Mr. Quinby was generous enough to give this invention to the world; shall we not in return forbear copying it, but rather let the profit on it go to his own family, even though not restrained by law?

Notes and Queries.

WE are far back in this old country. Bar frames were almost unknown in this quarter till last year when I got this society set to work. By letters, lectures, and meetings of bee-keepers we managed to work quite a revolution. Our first exhibition was a grand success and some of our exhibits would not have disgraced the Centennial itself. We are to have a second this year and offer about £15 in prizes. I shall send you our schedule and rules when printed and you will see our ideas. We regard these exhibitions as the very life of the movement for improvement. In a highly cultivated region like this with very little natural pasturage and precarious summer weather we cannot hope to equal your results, but we will do our best. My first attempt to reap the largest harvest of super comb (box honey), from one hive gave me over 103 lbs, so I do not despair. We know "a leetle" about extracting, queen rearing, and wax foundations. We do not fancy cellars or clamps, for winters are not very severe. My bees have been flying almost every week during the winter—quieter the better however. One "chaff" hive is the quietest of all. We consider hives made of ⅝ inch wood doubled with ¾ inch dead air space between as quite sufficient for open air wintering, with quilt of course.

California comb and extracted honey is sold in Dundee but I wonder why the latter is still liquid, while all of ours is almost solid enough to slice with a knife.

WM. RAITT, Liff, by Dundee, Scotland, Jan. 30th, '77.

Which way do you have the combs built in the side storing boxes, parallel, or at right angles to the brood combs, or is it no difference? [No difference.] Which way in the upper boxes? [No difference.] Will half inch lumber be as good as thicker lumber for a hive, provided it be well painted and set in a good shady place? [No.] In using side storing boxes do you consider it essential to have them on both sides of brood combs, or will they work as well if only on one side? [Both.] Are 6 combs [L.] sufficient for brood chamber to winter on putting chaff around them and leaving them on summer stands? [Yes.] Are 6 combs sufficient for brood chamber for summer for raising box honey? [Yes.] Is dry sugar or candy as good to stimulate for brood rearing in the spring as sugar syrup? [Afraid not.] Is it nearly as good? [Yes.] Do the bees enter the *side* boxes from *slots* below them or at the *side* of them? [Both.] Do you consider side boxes an advantage? [Yes.]

JOHN AGAR, Kendall, N. Y., Jan. 20th, 1877.

How would it do as a cure for after swarming to have a quantity of fertile queens ready so as to put one in the old stock immediately after swarming? [First rate, and if you had pure queens to put in, you would be O. K. on Italianizing, but look out that they are not killed.] Could the queen be hatched and fertilized in a small hive, say about 6 inches square, holding two or theee small frames of brood and honey? [Yes, but small hives don't pay; better use full sized frames.] Would not the fertile queen thus introduced destroy the young queens in the old stock, and begin laying, thus saving a great deal of trouble and time? [She will generally.] After swarming gives me more trouble than wintering.

I would like to know something about clipping queens' wings. How much of the wing do you cut off? [Tip of one wing.] How often do you clip them? [Only once.] Do the queens not get lost when they come out to swarm? [Sometimes if not watched.] Would the swarm find her if she were put in a cage and on a rake stuck in the ground near by? [Not always.] If two or more swarms came off at the same time and the queens were caged would they find their respective queens? [Not always.] Will bees do as well in this climate, in the sun, as in the shade during the summer? [No.] According to advertisement I infer that you can furnish sections 6x6x2, for $10.25 per 1000, am I correct. [No; above would be 72 cubic inches; price per 1000 $12.20.] Do you put tin separators between any sections except those which you wish to glass? [No, unless it be those in the lower story, to keep the queen out.] Be patient, only a few more. Do new oak barrels require waxing? [Yes.] Should they be bunged tight as soon as filled? [No.] Should they be kept in cellar or dry room when honey is put in, in the fore part of the season? [Any where if waxed.]

Last season was a poor one for honey in this section. I began with 23 swarms, increased by natural swarming to 45. Took about 600 lbs. of honey, 200 extracted, balance in section frames. Packed in chaff for wintering. Have wintered in this way for three seasons with good results. Bees all right at present had a good fly yesterday.

K. M. Barbour, Alamo. Mich., Feb. 6th, 1877.

P. S. What is the thickness of stuff for sections? [⅛ in.]

VIRGIN QUEENS. INTRODUCING THEM.

You say in your answer to my other letter that you do not believe a virgin queen one week old can be introduced by any process. I knew that bees were possessed of nearly all the human frailties, but did not know before that lack of gallantry to "ancient maiden ladies" of their own race was one of them. I have always kept my queens at least 4 days, and from that to 8 before introducing and often introduce 6 or 8 in a day without any loss. In fact I would just as lief introduce a virgin as a fertile queen and can do it with as little loss. H. P. Sayles.

Hartford, Wis., Feb. 9th, 1877.

[Will wonders never cease? Please tell us friend S., how you introduced them. Almost every attempt we have ever made, or heard of others making with virgin queens old enough to fly, has been a failure.]

Our bees are all right so far, except one in the house apiary, showing signs of dysentery. I examined one under chaff out doors and found them in a great commotion; the chaff above them was *hot*. I brushed it off and rolled back the sacking and let them fly (the sun was shining quite warm) and they soon quieted down. I examined the lower entrance and found the space entirely closed with a thin board that had slipped out of place. They have been quiet since their fly. Have one swarm completely covered in a snowdrift. J. H. Martin, Hartford, N.Y., Feb. 14, 1877.

[If your chaff hives are close and warm, we think you will need the whole entrance open all winter for ventilation.]

In feeding bees, why not pour the honey or syrup right into the combs by lifting out one frame at a time? I have the L. hive, and that is the way I do it. Others take more pains, but why, I want to know.

Wm. Hunt, North Lawrence, Kans., Jan. 30th, 1877.

[There is no objection to the plan at all, except that it is a sticky, dauby operation, is very apt to excite robbing, and takes much time. If you have many colonies, you will find that it is rather laborious, to even take out one comb from each hive. Giving them their food before the entrance at night, we find much easier, if the weather is warm; if it is not, give them sealed combs or candy.]

I guess I must have been intended for a bee-keeper, as I am not much account for anything else, and I am almost bee sting proof. It does not swell a particle on me, and gives me but little pain, and I love to work with bees better than anything else and above all I am particularly fond of honey. You say somewhere that your principal living is nice bread, butter, honey, and a pitcher of ice cold milk. Now such "fodder" as that suits me to a T. I would like to board with you.

M. M. Stover, Table Rock, Neb. Feb. 9th, 1877.

My 25 colonies of Italians increased to 50 last summer, and gave me about a ton of honey in little frames. We have been getting stuff sawed at home for the sections, but it is rough and uneven, and would like to try a few of yours. From your reply to Brooks & Bro., I judge you make sections of desired width, as well as length and height. Mrs. A. L. Gould.

Ridgeville, Iroquois Co., Ill.

[Certainly.]

I have lost 10 hives of bees this winter. I gave them too much box room. They were in box hives, and one of them had 20 lbs of honey, but there was nothing but drones in the hive; I don't know how that comes. John Boerstler.

Gilead, Calhoun Co., Ill.

[The hive with nothing but drones, is rather a joke on you, friend B. You did not see that they were supplied with a good queen in the latter part of the season, and your drones are the work of a drone laying queen, or fertile workers.]

Bees had a fine fly to-day. Have lost one colony in 83 as near as I can tell now. You are aware I winter out doors in Finn hive. J. J. Kiser.

Adelphi, Iowa, Jan. 27th, 1877.

[That is certainly pretty well, but it seems they do *sometimes* die in the Finn hive after all.]

I bought a bee tree last Thursday; paid $5,00 for the tree. Cut it yesterday, got 85 lbs. of fine comb honey, and a large colony of *hybrid bees*. How is that for wild bees only two years old?

W. G. Craig, Clearmont, Mo., Feb. 9th, 1877.

I commenced last season with 45 colonies, several gave over 100 lbs. box honey.

I have 67 stands with which to commence the present season. W. W. Hippolite.

De Vall's Bluff, Ark., Feb. 12th, 1877.

Have got my saw fixed for cutting boxes; I use a slide the same as we use for cross-cutting, with the steel plate fastened on. It works splendidly.

G. R. Smith, Victor, N. Y.

◆

BEE JOTTINGS FROM THE MODERN "LAND OF MILK AND HONEY"

IN this, my initial "jottings," it would be expedient to inform the readers of Gleanings where I *hold forth*. Though less than 15 miles from San Francisco and on the opposite (east) side of the Bay, we are located in one of the best places for an apiary in this county. The Contra Costa range is hard by on the east, while to the west lays the Oakland Valley, sloping towards the Bay of San Francisco; on the north and south, low and rolling hills add to the landscape. A living stream of water flows near our stands, while trees break off all winds. An important object (a honey market) to the bee-keeper, is secured to us by the two largest cities in the state, each within three quarters of an hour's ride by rail or ferry. Such is the location of our apiary.

Although our bees do not gather white sage or orange (?) blossom honey as do those of the lower counties, we can claim, to our notion, as fine an article and a longer honey season than the bee men further south have. We do not contend that in this place such vast quantities of nectar can be produced as in Los Angelos, San Diego and other lower counties, but that a good article can be had, and the honey producing plants are such that bees can be busily employed every day in the year; hence, colonies go through the winter safely, and by the time the peach blossoms, they will be heavy in stores and strong in bees.

While your bees are wintering in their chaff hives; whether in cellar, under snow, or—we don't know where—let us tell you what our bees are doing, and how they are "wintering." Possibly you may be jealous, but we can't help it, for our bees will enjoy themselves these winter months, in spite of all our protestations.

Well, all our bees are on the summer stands—no chaff hives, no quilts of any kind, no straw or corn-fodder, no boxes or other useless fixings about them, save a board laid over the top to protect them a little from the rain.

For 60 days up to Jan. 16th, not a drop of rain fell, and how industrious our bees were during that time, collecting nectar from the flowers then in bloom. Since the 16th we have had several showers of rain, in fact, the State has been saved by these rains; farmers are jubilant over the prospects. Also the bee-keeper, for the honey season will be longer and the yield of honey will be greater.

What think you of transferring bees on the 2d day of January? Well, we have performed that operation, and in due time removed fastenings, etc., examined bees and comb. When transferred, only one card of comb contained a few inches of brood, and at the time of examining we found they had nearly three cards pretty well filled.

We forgot to mention in the proper place, that the broken comb was all fastened and everything put in order by the bees in the transferred hives. About a week from the date of transferring the above, we performed the same job, with the same result, on another old box hive.

At this writing, Jan. 22d, bees are working splendidly, gathering honey and pollen. Willow is now in bloom, also about 50 other plants and shrubs from which honey and pollen are got; in a subsequent issue we propose to give a more complete list of them, therefore, the following will suffice for this time: Wild and cultivated gooseberries, wild currant, blue gum, rape, mignonette, horehound, etc.

Of all our stands we are sure, from present indications, that not one will be lost. U. K. L * * *.
California.

Oh, but we do *sometimes* transfer in winter, friend U. K. L., and if you do not look sharp, we *may* beat you in spite of our frosts and snows. We are getting to be a "big nation," and keen thinkers, as well as strong-armed workers, are in the field.

THE "GO-HOPPERS."

WE have really got into trouble this time, and there is no mistake about it unless the kind friend who *did* indite the poem, will step forward and allow us to give proper credit. We hope the real Mr. D, will excuse us on the ground that he might otherwise have never developed his latent talents.

And this is to call Novice to account for an error on page 46, Feb. No., where he has an article, from some grass-hopper region, over my address. Thus advertising the hoppers in Central Illinois.

Do please say to your readers, before I am buried under a pile of enquiries for grass-hopper seed eggs, and countless yards of hopper scroll work, that our hoppers are the common kind only; not the improved variety.

If you just wished my name as an endorsement of the cheerful little poem, that is all right. I live on the prairie, and I willingly endorse

"Bees on the Prairie."

"A life on the prairie is the life for me,"
If der Kansas go-hopper shoost let me co vree.
"The cold blast of winter is worthy a song,"
If he plase dot pold hobber shoost der next blace
along.
"And when in spring-time the breezes of May,"
Melts der shnow vrom der eggs off dot hobbers
avay,
"I'll listen awhile to the merry bees' hum;"
Und I dinks all der viles, vill dot go-hobbers
goome?

"And when the wild rose is opening its bloom,"
Und der brairie is govered mit hobbers so soon,
"I'll creep in the shade of my own nurtured
trees,"
Und shake mit my poots, in crate akonies.

Farmer City, DeWitt Co., Ill. J. E. D.

REPORT FROM "OUR CLEARING."

HOW OUR FEMININE FRIENDS SUCCEED.

EDITOR GLEANINGS:—Our report for 1876 may seem to your readers, as to ourselves, not particularly noteworthy. So, let me say to them please. that it is given at your request.

May 1st, we had 25 colonies—being the whole number we packed in chaff the fall before. Of these, five were weak, one queenless, the remainder in good condition. We increased these, during the season, to 38, our aim being to increase as little as possible. During June, just enough honey was gathered to encourage brood rearing and unnecessary swarming. We never before found it so difficult—so well nigh impossible—to prevent and subdue the swarming fever. Plenty of room and only enough honey for daily use, was no argument against emigration with bees so enterprising as ours. The honey harvest lasted from July 12th to September 1st. There were intermissions of a day or two occasionally, but, on the whole, the flow was pretty constant, though seldom abundant enough to enable us to open hives without the immediate attendance of robbers. It was, I think, an average season for our locality. Our surplus was 675 lbs. of comb honey and something over 575 lbs. of extracted. One hundred lbs. of comb was in the Isham boxes, the remainder in small section frames.

We have depended almost entirely upon our home market for the disposal of our surplus, and I am beginning to fear that we may have over estimated its capacity. We have rather more honey on hand than is desirable at this date; but as that left is principally extracted, if not sold it will *keep*. For 79 lbs. in Isham boxes we obtained 23c. This was sold at our nearest city, and brought this price rather by a lucky chance than any good management of ours. The city in question is a very poor honey market. Our enquiries, after the sale, convinced us that the purchaser had allowed his admiration of the honey—the first he had seen in this shape—to over balance his judgment. For our honey in section frames we have obtained 22½c., it being retailed at our village stores for 25c. The extracted has been sold according to quality. The best has sold for 75c. in Mason's quart jars and for 30c. in Muth's pound jars—ten per cent commission to be deducted. For the poorest, candied, 12½c. Have sold the latter only at home. We might, undoubtedly, have sold a considerable amount of our best candied, at the village for 16c. (including commission) but have delayed to send it down, fearing that it might interfere too much with the sale of our comb honey.

We do not, usually, balance the account with our bees before May 1st, but it is, I believe, safe to say that if they all survive the winter, and we dispose of our remaining honey—even at a reduction of ten or twelve per cent on present prices—we shall have received fair compensation for labor which does not take us from our home, nor prevent us from caring for its interests. Cyula Linswik.

"Our Clearing," Feb. 9th, 1877.

Heads of Grain,

From Different Fields.

FREEZING BEES.

HAD you or any of our Northern friends been down here on the morning of the 3d of January you would have thought "Sunny South" the wrong name for this locality. In this neighborhood the mercury fell to 20° below zero, which was the coldest your humble correspondent ever experienced, and I hope never to see it that cold again. I stood it very well, but warmer weather suits me better. I guess you had better put this article under the head of Blasted Hopes, for if mine are not entirely blasted, they are "*blasted*" nigh it.

I had about a dozen colonies frozen out by the extreme cold weather, and since the warm weather has set in I find some of my strongest colonies almost depopulated. I have an opinion that some kind of disease is among them, for in the center of some of my best hives the combs are packed with dead bees. I will have to do a great deal of doubling up this spring, and I have no idea that I will have more than 25 good colonies to commence the season with. Last season was a poor one for honey. All told I only got a fraction over 2000 pounds. Too much rain during the honey season. I hope to do better this year if I can only keep my bees from dying.

I can endorse all you have said about Barnes' Foot Power Saws. I used one the last season and was perfectly satisfied with it. Every one who has a quantity of hives to make should have one of these saws.

J. F. MONTGOMERY, Lincoln, Tenn. Feb. 3d, 1877.

Guess you better have some chaff, had you not friend M.? We agree that there is something strange about the way bees at times die in the winter. With 6 combs of *sealed* stores and chaff cushions, ours seem to stand 20 degrees below, without any loss. Were not your hives so open, that the bees starved even with honey in the other end of their combs? Crowd them into small space, and pack them with chaff.

MOVING HIVES CLOSE TOGETHER FOR OUT-DOOR WINTERING.

have my bees put in winter quarters in a large box, the hives were put about as close together as they would set, then took lumber and made a box that would cover them and packed them with cut straw all around the hives; made a chute for them to come out and in at, just when they please. To the outside I set little blocks up to make the entrances show by themselves. Now what I want to know most is, will they be apt to rob one another any more in the spring, than if they were farther apart? I am using N. C. Mitchell's hives for one, and have another the size of the frame of which, is 10½ x15¼ inches, inside measurement. Just commenced last year; am I on the right road? I have them all Italianized. I got the most of my queens from J. H. Nellis & Bro., ($1,00 queens) and they are good. W. A. D.

Metamora, O., Feb. 7th, 1877.

So far as the straw packing is concerned, you are probably all right, but when your bees come to fly, a great many will likely be lost, by going to their old locality, and if robbing should get agoing, you will likely have trouble enough. As we have had a very long cold spell, perhaps they will all take the points of their new location, but if you design moving them back in the spring, you will encounter a fresh trouble, and we really know of no way but to move the box away, and spread the hives apart, a little every day, after they get to work. It is very unwise, to move bees about in the same yard, for they often go back to their old home, even after being confined several weeks; it is better to make a box for each on their usual stand, or put them in a house or cellar, and then carry them back every time you give them a fly. If you paid Mitchell or anybody else for a right to the hive, you did a very foolish thing in this day of Bee Journals in abundance.

UNITING COLONIES IN MAY.

If a person has 100 stocks of bees in May and wishes to reduce them to 50 by uniting, what is his best method to pursue? Please answer in the March No. The bees are in frame hives. D. W. FLETCHER.

Lansingville, N. Y., Feb. 5th, 1877.

Move the colonies to be united close together by moving them about a foot a day, every day they are flying, then lift the combs, bees brood and and all, into one hive, and take the other away; you can omit the moving, if you are willing to waste a great part of your flying bees. If you thus unite two strong stocks, you will not only lose your queens, but will most likely have them divide themselves by swarming, in a very few days, unless you keep a very sharp lookout. The only bee-keeper who ever recommended uniting bees in May, that we remember, was our friend McFatridge, as given on page 49, Vol. III. He by this means succeeded in getting nearly 200 lbs. honey to the colony with the extractor, which is probably almost the only means by which troublesome swarming might be prevented.

CLOSED TOP SECTIONS AND RAISING CHAFF.

In relation to section boxes with closed tops I have used such for first sets and sometimes have used them doubled or tiered up by simply putting in two or three bottom side up in the lower sets, the bottom bars being narrow, this leaves a space for the bees to pass through when reversed. If chaff is to be the order of the day I have a species of oats that will yield three times more chaff than the common kind, the grain is good but yields light with us. J. H. MARTIN.

Hartford, N. Y., Jan. 31st, 1877.

HOW MANY STOCKS CAN BE KEPT IN ONE LOCALITY.

How many swarms of bees can a person keep in one place and have them do well? What is the experience of long-time bee-keepers on this subject?

M. WRIGHT, Middleville, Mich. Dec. 20th, 1876.

A few years ago it was thought 50 were as many as it were well to keep in one place, but within the past few years we have many successful apiarists who keep as many as 100 or more, and there are those who keep even 200 in one locality, and get fair yields on an average. Perhaps it would be well to give your locality a pretty good test at 50, and then try a greater number, a few at a time; if you can make 100 colonies average 50 lbs. to the hive, it will pay you to keep that number, for the expense is very much less where you have them all under your immediate supervision than where you have them in different apiaries a mile or two apart. It should be remembered that some localities will support 200 colonies, much better than others would 50.

My report for 1876 is not a very good one. Ten stocks in spring increased to 21 and 242 lbs. of comb honey. Very dry before harvest and cold fall. We had scarcely any fall honey gathered. My bee acc't would stand about as follows.

Increase 11 stands@10,00		$110 00
242 lbs. comb honey in comb@20c		48 40
		158 40
Contra.		
To 11 hives@1 25	$13	
" 1 queen in spring@3 50	3 50	
" 4, dollar queens	4 20	
" GLEANINGS and Journal	2 25	
" Comb Foundation	2 25	25 95
Balance in favor of bees		$132 45

The queens I bought of J. Oatman & Co., Dundee, Ill., and very nice ones they were and put up in the best of taste. I now have 23 stands in cellar, most of them in good shape. Bought 2 stands in fall.

D. PATERSON, Algona, Iowa.

LETTER FROM GEORGIA.

I have 38 colonies of bees, about one-third pure Italians, the rest hybrids, all in movable comb hives. My frames are between Gallup and American in size, 8 to the hive. I used an extractor of my own make last summer and took about 800 lbs. liquid honey, no comb. Began the season with 12 poor colonies and increased to 49 mostly by natural swarming, but had to double up, or *down*, to 38 as there was an absolutely total failure of fall supplies from drouth from Aug. 15th. The season was much below an average one. I think that in an ordinary season I can average 100 lbs. per hive, of extracted honey.

Our main sources are poplar, black gum, persimmon, huckle-berry, chestnut, wild-cherry, holly, peach, apple, Chickasaw plum, cow pea, honey locust, linn, and cotton, besides many other that yield quite freely some seasons. There are some seasons, immense quantities of honey-dew here from which the bees store very large amounts of a very good honey. This honey-dew honey, so far as I have observed, tastes well, looks well, and has no deleterious properties that would exclude it from the table, neither does it seem to disagree with the bees in any way.

HONEY FROM THE COTTON PLANT.

I have never seen any mention of the cotton plant as being a honey producer, but it unquestionably yielded nearly all that I got last summer. It is a beautifully clear, pale straw colored honey, very thin when extracted, so thin in fact that I feared fermentation, but I was unable to bring about souring though I tried a number of experiments; whether left open, or sealed up, in a cool or warm room, t thickened up. It is very sweet and bland, and whenever not sealed up has become a hard, beautifully white granular mass. A thing I have never known to happen in our climate with honey before it is four years old. Some granulated in my hives. Please excuse me for thus tresspassing. I have written with my little *Blue Eyes* on my lap. DR. A. H. BRANTLEY.

Decatur, Georgia, Jan. 17th, 1876.

We had a very good season for bees until Sept. 1st, after that date we had very little honey gathered; Sept. is generally as good a month for honey as any with us but this season it was a failure. I began the season with 10 colonies of Italian bees, increased to 25, got 600 lbs. of honey, 400 of extracted, 200 of box honey, and raised 80 queens. Don't see how any practical bee man can call comb fdn. a failure, I used it last summer and I think it is just what bee-keepers need. I will want 10 or 15 lbs. next summer if my bees get through the winter all right. Bees all put away in their winter quarters.

M. M. CALLEN, Moravia, Iowa, Dec. 18th, '76.

Had only 10 swarms in '72; they have increased to 210 and given 13500 lbs honey. My farm is new and I don't have time to care for my bees as I ought. I think I shall try the comb fdn. this year, would it be advisable for a green hand like myself to try 25 lbs. at first? I have had no experience with it.

Would it be colder for bees to have a higher stand? My stands are only 5 inches high; it seems to be very warm so close to the ground. I have thought some of making my packing boxes solid for winter, and turning them over to use for stands in summer.

EXTRACTED VERSUS COMB HONEY.

I shall use the extractor more another year. I have not had half enough extracted honey during the last two years to supply the home demand. I don't have to ship any extracted honey.

HONEY, HOW TO SELL.

I have a great secret in selling it but I don't charge anything for the secret, and will tell you what it is. *I sell to all at the same price.* Sometimes a customer will think he only wants a puond or two; takes it at a low price and when it is gone, comes back for 50 or 100 lbs. more.

SWARMING, PREVENTION OF.

Can you tell me how to manage large swarms in May when there is no honey? Honey comes here about the 5th of June, it don't vary two days and before it comes in plenty they swarm. I don't and can't keep them from it until honey is plenty. I have tried to raise good queens before they swarmed. If I could keep them from swarming until the middle of June I could prevent it entirely.

LEWIS KELLEY, Ionia, Mich., Jan. 15th, 1877.

We very much prefer that everybody should try the fdn. as well as everything else, on a small scale first, that there may be no disappointment. We will sell you a single ounce if you wish, for we have full confidence in your plan, friend K., of selling small quantities at a low price, just for accomodation; for if our produce is good, we may be sure of further patronage. Let us try to surprise our patrons at the very low rate at which we can sell a really good article. We do not find any advantage in having high stands, and if you use 2 story hives, you will be apt to get the upper story inconveniently high for handling the frames if you raise them up very much. You can certainly prevent the swarming fever by keeping them short of honey, but we really know of no other way, unless it is to have an unlimited supply of empty combs on hand to contain all the honey that may be brought in.

MOTH WORMS AND POLLEN.

In regard to moth worms working in combs containing pollen, I can give you a little item myself. While a friend and I were transferring a black stock for a man in the country, we discovered the combs were infested with worms, and on looking closer, by breaking the comb apart, found the pollen alive with very small moth worms, but few of them being found anywhere else on the combs. The combs were nice white ones built this season and we had to throw away everything that contained any pollen. That was the first time I ever saw or heard of the moth working in pollen. WILL M, KELLOGG, Oneida Ill.

TWELVE SWARMS FROM ONE IN ONE SEASON.

Judge John Porter of this city, had one stock last spring. They gave him 12 swarms, two run off, saved ten, and got some box honey besides. Some of the swarms did not have honey enough to winter over. Now these bees managed *themselves*, except that the Judge hived them. T. G. McGaw.

Monmouth, Ill., Jan. 29th, 1877.

I have a Barnes' Saw, like it well. Can't a 7 or 8 inch saw be put on the 6 inch saw mandrel? From 28 colonies and an increase of 30, I got over 3300 lbs. of comb honey last year. I just got the Jan. No. of Gleanings last week, and I would'nt take $5.00 for what I learned in it, especially since I use the Barnes Saw. J. F. Florey.

Modesto, Cal. Jan. 31st, 1877.

It takes much more power to drive a 7 or 8 inch saw, and the light mandrel, although sufficient for the 6 inch, we think would hardly be suitable, for large saws; the belt power also, would hardly be capable of running an 8 inch saw. As we increase the diameter of saws, we consume power very rapidly, and when we get up to 10 inches, we need a 3 or 4 horse power engine to drive it effectively. A 6 inch saw as a general thing, we think will be found as large as can be used profitably with foot power, unless we accumulate power by heavy balances, and then saw only a part of the time we are treading. With a man at the crank, and another to do the sawing, an 8 inch saw might do very well.

DYSENTERY AND DWINDLING, REMEDY.

I am beginning in the bee business, have some that are dying with the dysentery. What shall I do for them? Have one in Langstroth, one in box, the rest in hives 11½ x20 inches, movable frames. T. N. Whitely.

Burlington, Mich. Feb. 6th, 1877.

We really do not feel sure that anything can be done, when bees have once got the disease badly, unless we have warm weather that will allow them to fly freely, and even then, they are very apt to get the "dwindling" and die in spite of us. The best advice we can give, is to double them up until you have strong colonies, then give them so few combs, that the bees can cover them all, and have these combs contain good sealed stores. The thin, watery bad tasting stuff that is usually found in diseased colonies, will certainly kill them if they are obliged to use it in bad weather. During the summer, we have used combs containing such stores without any bad results that we could discover. Plenty of bees on a few combs of good stores, well covered with chaff cushions, will we think take care of themselves in any weather. If you can not get the good stores, give them empty combs, with sticks of candy above them, under the chaff cushions.

I generally winter 2 or 3 swarms, and in July or August take up 4 to 6 new swarms. It does not seem to cost much, neither do I make it very profitable.

C. M. Kinney, Northampton, Mass. Feb. 5th, 1877.

Does it not cost you some twinges of conscience, friend K., to thus murder the little fellows you have seen all summer long laboring so faithfully, and so innocently? Besides you can get much more, much nicer, can get the honey more easily, and have your bees left besides, by adopting some of the modern ways of working.

TRANSFERRING ON A NOVEL PLAN.

I will try to tell you of a trick I played on a hive of bees, transferring them from an old fashioned box, to a movable frame hive, without having such a sticky mess of it, as is generally the case. I was out in the apiary watching the bees, on the first of February; the day was warm and pleasant, and the bees were having a fine fly. Suddenly they began rushing out of an old box hive, and circling in the air as when swarming. The same moment a thought popped into my cranium; why not transfer that hive of bees now, and save the trouble next spring. I picked up the old box and carried it a few steps away, and placed on the same stand a movable frame hive nearly full of comb and honey. The bees continued to fly around for a few moments and then settled on a board on which I had set the box they came out of.

I then took the board and shook the bees off in front of the hive, and happening to see the queen picked her up and put her in the hive where the rest soon followed, and now they don't seem to know that they have changed quarters at all. I afterward examined the hive the bees were in, and found they had no honey, nothing but pollen; that probably was the reason they swarmed out.

Cyrus McQueen, Buena Vista, O., Feb. 4th, 1877.

It would be rather risky to undertake to make a business of starving bees out in this manner, but we may profit by the idea of giving a transferred colony as many good combs as the new hive will hold, besides all their own brood combs. We advised in Vol. I, giving the pieced up combs to different stocks. This enables them to repel robbers, much better than if they had all the clearing up to do themselves.

ARTIFICIAL POLLEN.

A friend writes "thusly." Bee Bread: Pulverized slippery elm bark 1 lb. Barley malt *ground fine* 1 lb. Make into a dough by wetting up with pure strained honey or sugar syrup. If not made too stiff it can be spread on cotton cloth and hung between the frames, or it may be made into cakes and laid on top of frames over bulk of bees. I find it fine for *early* spring feeding. If the cakes get dry and hard it will be well to dampen them occasionally. Have taken several colonies through winter *without anything else.* Please give your opinion of the above.

H. Nesbit, Cynthiana, Ky.

Some time ago friend Nesbit of Cynthiana, Ky., sent us the above. The paper was mislaid and we have never made a test of it, but from the good reports of malt, we have no doubt that the bees would use it for brood rearing. Slippery elm, has formed the basis of a great number of receipts and secrets for bee-feed and artificial honey, but friend N's report is the first favorable one we have ever received. Perhaps friend N. has justly earned the $5.00 offered some time ago for a cheap substitute for pollen. Slippery elm is very cheap, and malt—cannot we manage to give it *all* to the bees?

BROOD REARING IN WINTER, UNDESIRABLE.

Wintering 23 stocks on summer stands; all right yet, though the weather keeps obstinately cold. The mercury touched 44 for a short time yesterday, February 2d. My bees have not had a good fly this winter. A few came out the past two days. One colony is breeding, I think however breeding at this season of the year is a damage. More bees have died in that hive than any other.

S. T. Pettit, Belmont, Ont. Can. Feb. 3d, 1877.

It is pretty well decided that spring dwindling is worst when the bees begin to rear brood rapidly, but on the other hand bees at times raise large amounts of brood in winter without seeming injury, and we have both results in the same apiary. It looks now very much, as if the dwindling were caused by want of close warm hives, but we need much experience in the matter before deciding too hastily.

There is a man in our county by the name of Boush that has patented a moth proof hive (box hive with hopper shaped glass bottoms). Now I do not think he could sell a hive to a man that ever owned ten stocks of bees, still he has sold 2 or $3000,00 worth of territory rights. SAMUEL J. DALLISON.
Bedford, Iowa.

My bees have wintered A No. 1 in spite of our severe and lasting winter. We had 23° below zero several mornings. I have on my roof very strong stands for this time of the year. One, two or three frames with brood, in every hive but three. One of my covers was leaking which made that hive dwindle down very much, as a matter of course. I should be sorry if, on account of my carelessness, I should be compelled to report the loss of one stand.

Honey trade was very good this winter. I have sold large quantities very readily. Trade is slow at present, however. CHAS. F. MUTH.
Cincinnati, O., Feb. 12th, 1877.

Have had three seasons' experience with section frames and like them very well. Have always had ready sale in St. Louis, Mo., at 25 cts. per lb. gross weight. Has anyone ever tried rubber rings such as are used to fasten memorandum acc'ts together with, to hold the glass on sections or other honey boxes.
A. T WILLIAMS, St. Charles, Mo., Jan. 22d, '77.

SWARMING AND TRANSFERRING IN THE WINTER.

Bees have been flying 7 or 8 days—worked freely on flour when they could get it. Had one swarm first day of this month and transferred two this week; you may think we have a little summer time over this way, but I will explain. In the first place, I bought last fall some swarms in log-gums, these I put about 100 yards from the house; and I had setting on the south side of the house 3 or 4 swarms in movable comb hives. Well, it was one of these that fell into the hands of these "log gum fellows" who actually stripped them, of all they had, in the way of sweets. Realizing, I presume, their poverty, they concluded to hunt new quarters. Well sir, these bees had the boldness to come right over where their enemies were, and settle on a peach tree; they were put back in their hive, fed plenty of honey, and now the frames are teeming with eggs and larvæ.

Now about transferring; during our coldest weather it froze so hard, one of the gums burst open and let honey, brood, bees and all come down. They were transferred and seem to be doing well; the other one was a weak swarm with plenty of honey, in a large gum. About this one we reasoned thus: if they were in a movable comb hive, we could by the use of the division board put them in a small place and wrap them snugly, which would enable them to retain more heat and cause them to rear brood faster; so we went to work and fixed them just that way. Now Mr. Editor what do you think of the above course?
W. H. KERR, Waynetown, Ind., Feb. 12th, '77.

You did just right of course, and we need have no fear of working with our bees in the middle of the winter, if we have weather enabling them to fly, other than that it may cause them to rear a lot of brood, which may be killed by the first freeze, thus wasting the honey they consume in the work.

FRAME VERSUS BOX HIVES FOR WINTERING.

Bees in this locality are wintering very poorly in box hives. Those in frame hives are in good condition as far as I have examined. We are having steady cold winter weather here at present, with quite a body of snow. I anticipate a very heavy loss of bees in box hives this winter unless they are ventilated at the top. I find a very good way to ventilate box hives, having no holes in the top, is to bore a one inch hole in front of the hive about two inches from the top. I would like to hear from others through GLEANINGS, on the subject.
D. W. FLETCHER, Lansingville, N. Y. Dec. 23d. 1876.

I too have just got a Barnes buzz saw, and am making section frames according to directions on pages 8 and 9 of GLEANINGS. I don't exactly know whether I am crazy or not, but my bees surely will be if they refuse to store honey in such nice little boxes as I am making for them.
LUCIUS SNOW, Blakesburg, Iowa, Jan. 23d, 1877.

CUSHION DIVISION BOARDS, A GUAGE FOR COMMON SHEARS, AND CHAFF PACKING.

I am greatly interested in the chaff cushion experiment. The division boards *are very* objectionable, for unless well filled they cannot confine the heat sufficiently. Your new sectional boxes are very much like those I have been using the past season, but I would recommend that those used on the first tier or course be made with closed tops and then when the second is put under *they must* be open top and bottom as you have them. I had three tiers on two hives last year. Made them into boxes by pasting stout paper on sides and tops of part, and sides of lower tiers. I put glass on each end and so made a 14 lb. sectional box, glassed. When filled, cover with paper on open sides and they are ready to ship.

I wish to give a hint that may be useful to many of our fraternity now that paper and cloth are entering into use so much among us. At the centennial my wife came across a most convenient little gauge for cutting cloth or paper into strips regularly, so convenient and valuable that its merits ought to be known. You may have seen it, if not you will value it highly and your wife will deem it indispensable. They are sold at $1.00, plated, and I think ought to be at 50c. But $5.00 would not induce my wife to part with hers. It is attached to the point of the shears, and will gauge any width to 8 inches while cutting. You ought to test and keep it among your supplies. The patentee is J. Lamb of Jeffersonville, N. Y.

About packing. Would it not do to take, say a 4 or 5 foot dry goods or other box and put 4 hives in it, and chaff at bottoms with 4 openings in different sides and then fill in with chaff light, having it deep enough for 2 stories and then pack upper story with chaff cushion? I suggest and shall try it at once. It saves lumber even if larger size is required, and saves roofing and time. I have not done remarkably, but attribute it to my want of time to give full attention. I had as high as 80 lbs. from one colony in sections and 40 and 50 lbs. from several, but only about 1000 lbs. from 54 old and new. Our swarms were very short last year. J. W. PORTER.
Charlottesville, Va. Feb. 12th, 1877.

We do not know of any kind of division board that will be so close and warm, as the cushions. The gauges mentioned, we think would be excellent for cutting fdn. Will try and see how low they can be furnished. The objection to putting 4 or more colonies into one box, is that their summer locations must be changed, and that they will get mixed up and lost should they happen to fly during the winter. More than all, they have got to be taken out of these boxes before they can be handled well for surplus of any kind.

Since Jan. 27th bees have flown nearly every day. On the 31st we examined two stocks that are out-doors without any protection except carpet on the frames; they were in good condition, but had consumed a *big* lot of honey. The queens in both had just begun to lay. Temperature in cellar has stood at 48° for a week past and the bees are humming as if it were a summer evening, and busy carrying the dead bees to the entrance. To-day I took a stock out that was only 3 inches from cellar floor and was *perfectly* quiet. It was very strong in bees and had less dead ones than I expected to find in it. In two frames there were 3 inches square of capped brood. This hive last season gave a swarm June 5th; the old hive made 120 lbs. box honey and the new swarm 110, total 230 lbs. Quite a number of *new* swarms gave 100 lbs. Now our friend Kellogg is only about 30 miles from here and as good as the past season was, he from 9 stocks in the spring increased to 20 and took only 330 lbs. of extracted honey from the whole 20. He thinks he is in a poor locality and that it is overstocked. I judge there are not 50 stocks within a mile of Oneida. I think the difficulty is his stocks are not strong at the right time. I told him I thought this was his difficulty. Kellogg will probably combine with Wm. Hollingsworth and run the bees at the river this season. If I take them on the shares again he will work for me. I advised him to run them on the shares but he was afraid he would get so many bees on his hands it would *swamp* him.

Well, our young friend Wm. Hardin Haines seems to have a good deal of *vim* in him. He is working to get up a convention of bee-keepers to meet here the first or second week in April. He has ordered 35 queen bees from Switzerland and Italy—says he will sell them at $8,00 each. He has also set his stakes to raise 400 queens besides attending to his apiary. He did have 80 stocks but has sold 30 hybrid stocks. Not many 18 year old chaps that can do all the above. He lives 40 or 50 miles below me.

T. G. McGaw, Monmouth, Ill.

I have been carrying my bees out of the cellar to-day. Found all O. K. except 8 starved out. They were Sept. swarms and I knew they were light but was in hopes that they had enough to last until I carried them out. I have over 90 colonies left. H. A. Burch and my brother have had bad luck with their bees. They had them in Burch's house apiaries and they took fire and burned up. I think there were some 135 colonies. A. C. Balch.

Kalamazoo, Feb. 9th, 1877.

We sincerely hope the house apiaries were well insured, as all such structures should always be.

We have a beautiful day here to-day away north of you just about where the 44 degree line comes. It makes me feel like letting my bees out to have a fly. Poor things have been shut up in the cellar for about three and a half months and it seems hard that they should not be allowed to enjoy such a fine day. I hope that bee-keeping will soon be managed so that we will not have to keep them confined all winter. Do you think I had better let them have a good fly in March? Now I want to begin bee-keeping in earnest in the spring. I have 9 stocks of black bees and have bought 10 stocks of Italians from friend Jones of Beeton. The hive I use is 12x18 inside measure and 15 inches high. Can put any number of frames in from 1 to 12; and a division board which comes within ⅜ inches of the bottom. Cover consists of a flat board about 2 inches larger than the box outside, with a two inch belt all round it made just large enough to fit down over the box cozy. All I put between the cover and frames, is one or two thicknesses of cotton (factory). The frames set crosswise of the box and hang on strips of stovepipe iron so as not to be easily stuck with propolis, and will lift out easily by means of the division board. I can make the hive any size inside.

ENTRANCES; AT SIDES OR ENDS OF FRAMES.

The bees enter at the end of the hive. Would it not be better for them to enter at the end of the frames instead of at the sides of them, as by so doing they have to go on the bottom or along the side to get to the rack in the far end of the hive from the entrance? I have to build a number of new hives this spring and would like to have you suggest any improvement on these. Do you think them too high or too long, 18 inches from entrance to the back of the hive? I shall want about 1 dozen queens as early in the season as I can get them, say June 15th. I don't want them of Dadant's stock as those I have are from his, and I want to cross them. Shall probably patronize friend Oatman.

I am going to seed down about 10 acres of my farm near the bees, with clover this season. Can get seed as follows. Red clover for 14c, alsike 25c, white Dutch 30c. per lb. Taking the crop, price of seed, and all into consideration, which kind would you advise me to sow? Remember I am a good bit north of you and our seasons must be shorter. If drones are necessary to impregnate queens, how can queens begin to lay in the spring after killing off drones the fall before? C. R. Tench.

Newmarket, Ont. Can. Feb. 14th, 1877.

We too hope bees will soon be wintered so they can come out whenever they wish, and without any attention from their keeper. Where they are perfectly quiet and healthy—clean, dry combs—we would not disturb them until settled warm weather, but if damp or uneasy, and trying to come out, we would set them out to fly the first warm day.

We do not like such a hive as you describe, near as well as the one we gave on our Feb. cover, with the Langstroth frame. Especially, do we find the bees disinclined to work in a long hive on comb honey. Last season we had combs built much more readily in a fourth story, than in the ends of a hive 30 inches long. It is pretty well agreed that we want our honey stored as near the brood combs as possible, and by no means can we think of omitting the space just above the brood. For the sake of permitting the bees to get to the brood in the most direct way, we would have the entrance at the ends of the central combs, and whether it should be on the bottom board, or a few inches above, remains yet to be decided.

We do not think you need to take any pains to cross your stock. They will almost always get all the cross needed from the black bees near you, in spite of all you can do.

It will be a hard matter to get many queens by June 15th, unless you are willing to pay an extra price for them.

We would recommend the alsike, although white Dutch may be equally good; but few experiments have been made with the latter.

Your latter question is like a great quantity of others, that are fully answered in every text book and every work on bee culture. In fact it is so well understood by all bee-keepers that the impregnation of the queen lasts her whole life, that we fear we are doing wrong to take the space here to reply to such. Will not our friends look over their books a little more, before taking the trouble to ask questions that are really the A, B, C's of the science? Prof. Cook's manual is only 30c, and it goes briefly over the whole ground.

CHAFF, THE FIRST COMPLAINT.

I am not very well pleased with the chaff theory now, we packed three swarms *a la* Townly to the very letter of the law, and lately they are bound to get out and perish on the snow. Shut them in! Nonsense! they will gnaw out in spite of us. Did you say their honey wasn't good? Aye, but it was, all sealed, plenty of it too. Plague on the hobbies, I think I shall not make any chaff hives yet. Hasn't friend Jones, Beeton P. O. Ont. 400 swarms? and doesn't he keep them in frost proof repositories from November till nearly May; and never loses any? And he never gives them a fly either. And doesn't friend Bolin, and all the rest of the successful ones follow the same plan? Think of friend Jones, 50 miles north of Toronto wintering his bees all successfully and us farther south losing them. I think I shall build a bee house just like his next summer; they are very cheaply built as he builds them. ILA MICHENER.

Low Banks, Ont. Can. Jan. 27th, 1877.

That is right friend M., if we are in danger of going wild on hobbies, we shall expect you as one of our best friends, to lift up your voice against it. Mr. Doolittle would say you were keeping the bees too warm; if such is the case, can not you give them a little more ventilation? Friends Jones, Bolin, Grimm, and ever so many others, do succeed in wintering, but they have the springing troubles to contend with, after they are wintered. What we expect of the chaff, is to have it "spring" as well as to winter them. Give us the facts on the other side by all means. Good cellars, are certainly as safe as any plan that has ever yet been tried.

I commenced last spring with one stock of Italian bees. About the middle of May they played "sharp" on me and swarmed just as I was in the act of making an artificial swarm. I hived them all nice and good, and three weeks later the first swarm gave off a very large swarm, which was saved and did well. From parent stock I got 100 lbs. of nice comb honey, and from first swarms I got 50 lbs.

While I was absent from home in June, a stray swarm of black bees came along and was hived. They commenced work in the peak of cap; and there they are now. Now comes the "tug of war;" how shall I get them out of the cap down into the body of the hive? The entire space from top of lower frames to peak is full. Shall I wrench the cap off and transfer them below early in the spring? Or shall I wait until near swarming time and form a new colony with what is in the cap? I shall take the black bees five or six miles into the country to prevent mixing, and shall Italianize them as soon as I can get queens. E. H. CRIPPEN.

Moscow, Ind. Feb. 6th, 1877.

The combs are in all probability not attached very much at the bottom, so we think you can lift off the cap without very much trouble. We are inclined to think you have the old style American hive, if so you had better split the cap up when you transfer, and then to finish up the job, you had better split up the hive too, before you get any more such. Be sure you have the frames well covered, whenever you hive a swarm in any hive, that the bees can not possibly start their combs on the cover.

SWARMING OUT IN SPRING.

There are hard times ahead—my bees are all trying to organize into one colony! C. W. LEFFENS.

Lubeck, W. Va., Feb. 1st, 1877.

We are perhaps as helpless in preventing swarming out and going into other hives in the spring, as almost anything else in bee culture. It seems to be a part of the phenomena of spring dwindling, for very strong stocks seldom or never do it. We have hoped the chaff packing might remedy this too, but time will have to determine.

I am going to use some Simplicities next season, metal cornered frames below, section frames above. I do not like to use movable bottoms, but I can not get hives made here with any exactness as I want them. Metal corners are icy concerns in late fall weather, but they are so nice to handle, I will try to keep them warm some way. I want the section frames to *hang* in the upper or lower story (as per last GLEANINGS), in frames. Comb honey in large boxes sells slowly here and as low as extracted, and I am going to make a desperate effort to secure some in sections. The "deacon," my neighbor, some two or three years ago, made some neat little boxes holding 3 lbs. and they sold quick at 30 cts. per lb. when 20 lb. boxes would not sell at all. The local market here is now supplied with extracted honey and we must get honey up in some other shape, or export at low prices. I am not one who is scared at low prices; 10 cts. pays me well enough. A man recently wrote to my neighbor the "deacon," from Chicago for 50 lbs. extracted honey; was willing to take buckwheat honey if we had no better, but must have some honey to eat on his "slapjacks" at any price—none to be had in the great city of Chicago that could be relied on as *honey*. It seems to me here is a splendid opening for another "Muth." If I were "foot loose" and had even a limited reputation in that city as an upright dealer, I would furnish Chicagoans with as good an article as Muth does in Cincinnati. I want a buzz saw worse than anything else but I will have to wait awhile. Our blacksmith is studying on a band saw or jig or something of that sort and when he gets tired thinking of that, we are going to get him to go in with us for a "buzz." R. L. JOINER.

Wyoming, Wis., Jan. 30th, 1877.

We clip the following from the Louisiana *State Register*. If we mistake not our friend Perrine, has really turned bee-keeper.

BEE NOTES.

Dr. Rush, formerly of Point Coupee and one of the best bee-keepers in the South, has located his entire apiary on the plantation of Major A. W. Rountree, opposite the Carrollton Ferry. He has one hundred colonies.

Messrs. Perrine & Grabbe have started into business by putting up a saw mill and cutting out material for one thousand hives. They have purchased about one hundred and fifty colonies of black bees, and brought one hundred colonies of Italians with them from Chicago. They are located on St. Charles Avenue, in the Seventh District.

Our friend Alex. McConnell, 196 Clio St., who is the father of the bee business in this state, and who has forgotten more about bees than most bee-keepers ever learned, has put his apiary in first class order, and starts out with one hundred colonies of the purest Italians in the state.

Last, and least, the editor modestly mentions that he has some bees that he will be glad to show any of his friends who are in any way interested in the honey business, if they will call at his residence on Carrollton Ave.

This state in its honey producing capacity is superior to California. This fact is becoming recognized and we anticipate this spring some considerable interest in the bee business.

Our Homes.

But when thou art bidden, go and sit down in the lowest room; that when he that bade thee cometh, he may say unto thee, Friend, go up higher; then shalt thou have worship in the presence of them that sit at meat with thee. For whosoever exalteth himself shall be abased; and he that humbleth himself shall be exalted.—Luke 15; 10, 11.

BEFORE taking up the subject embodied in the text above, I beg to be allowed to go back to where I left off last month, for I have not quite had my say in regard to walking in the open air. I fear there are many among our readers who do not know what a pleasure, and what a stimulant to good thought, and better impulses, is walking in the open air, even though the temperature be below zero. Very likely there are many who will say they have tried walking but that they can not stand it, and there they will stop and give it up, just because they did not persevere until dear kind old Dame Nature had learned just what was wanted and had made provision for the unexpected demand in a new direction.

If you break a comb in a bee hive during the working season, you will find that the bees commence at once to repair the mischief by removing all the honey, and then very deftly uniting the fractured edges, so that when all is done it would hardly be discovered there had ever been a break at all. If you should again tear the comb apart in the same place a day or two afterward, you will find that they the second time, make a much stronger job of it than they did the first time, and so on; many of our readers have had opportunity of verifying this with badly constructed hives. Now if one of the bones of our bodies are broken, nature goes to work to repair the damage, in a manner quite similar; the blood and proper organs, performing the office of the bees. A few years ago Dr. Salisbury gave me a work upon human blood, with plates representing the discoveries he had made in regard to the circulation, by use of the microscope. I was much struck with the view of minute threads, looking like tiny straws or hairs, that were floating in the blood, and which were in reality fibres of lean meat or muscle, that were just forming, for the purpose of building up the tissues of the body. These fibres are carried along in the blood to points needed, and are then interwoven in such a way as to build up new organs, or to repair old that are in the process of wearing away. This seemed almost too wonderful to be true, and on my next visit I enquired why I had never seen these fibres. Were they really to be seen in all blood? The reply was that they were to be seen in all blood, but that they had never been observed, simply because no one had thought of looking for them, like the planets in the heavens, and many other things. As soon as some blood was placed under the microscope, and I was told what to look for, I saw them distinctly in great numbers. Well, now is it not a fact that when we undertake any form of exercise that we are unused to, nature begins at once building stronger and firmer the portions of the body that are found unable to bear the unusual strain, and is it any indication that some duties are too much for us, simply because we feel at first that we are not strong enough to to bear them? When a person who is unused to it, commences to use an ax or a hoe, they frequently find the skin wearing from their hands, or if the exercise is not taken gradually, blisters are frequently the result; afrer a time nature has supplied a thick hard skin in place of the light and soft, and seems making proper provision for the work to be done.

Some years ago, Dr. Salisbury as a part of his prescription, advised horse back riding. I told him it was impossible for me to think of such exercise, and that I could never stand it. He said that it was only a notion I had, and that I would soon enjoy it very much; that I *must*, take it up as a regular business. Well, I did think for the first week or two, that it would use me up entirely, and then I was such a great coward, that I suffered from fear, almost as much as from fatigue; I was sure I should *never* get so as to like it. What was the result? In less than a month, I was riding all over the country, at times at a break-neck speed, and getting glimpses of health and animal spirits such as I had never before dreamed of, and more than that as I became accustomed to the exercise I forgot all about being timid and preferred a wild colt, to any other way of going 10 miles that could be devised. At one of our livery stables was a horse that had been used for racing, but had a bad fault of stumbling; after I had been thrown over her head twice, I so far forgot all fear, as to indulge in a hearty laugh as I sprung out of her way as she fell a third time. The point I wish to illustrate is that nature not only adapts our bodies to the circumstances in which we are placed, but our minds as well, and I do think that the veriest coward, may become reckless almost, if that is the right expression, simply by becoming accustomed to rough life and the exhileration that accompanies brisk muscular exercise and becoming familiar with danger.

One more word about cowardice, since the recent rail-road disaster near us, there are those who say they shall be afraid hereafter to ride on the cars, and there are people who fear to cross the ocean, and others who will not work in mines, or go up on high buildings, etc., etc., because all these situations endanger life more or less. To come nearer home, we occasionally have reports of people dying from the effects of a bee sting, and therefore some will say they never wish to have anything to do with bees. My friends do you think those people really enjoy life who are constantly looking out and shaking in their shoes because there is danger of their being hurt? I once heard of a woman who was in such constant fear of getting the cholera, that she could hardly partake of the ordinary fruits and vegetables, and with all her pains and precautions she was the first and almost the only one to take it, when it did come in her vicinity. Every little while we hear of people getting killed by horses running away, etc., but shall we therefore decline riding at all?

Is it not best to consider our lives of no more importance than that of our neighbors and when it seems necessary that we should run some risk, to take our chances manfully? There are persons who seem bold and daring by nature, and who hardly seem to know what fear is, but there is a far larger class that have a natural shrinking from danger, that it seems almost harsh to call cowardice. I am not writing to praise those who have natural gifts, nor to encourage those who are so reckless of danger as to have it amount to foolhardiness. I write rather to those timid ones—if I were speaking of myself alone I would say those who have found by experience that they are both selfish and cowardly, and who find it a tremendous task to break away from such feelings. To such I would say take courage, for when we once get out of these besetting sins, we feel a joy, that those who are naturally brave, know nothing of. Perhaps such is always the case when we are led to see our own peculiar failings, and strive manfully to overcome them.

When I first commenced keeping bees I so feared the wicked stings that every hive I opened would set me in a perfect sweat and tremor, and when I got it all shut up safely, I would draw a breath of relief that might do credit to a man who had just been drawn out of a well. Now the fear of the stings, was much greater than the pain, and had I schooled myself in the first place to taking the consequences and bearing them like a man, or rather like a sensible being, I should have got along much faster, and suffered less. When duty demands that we should go among those having the small-pox or cholera, or that we should boldly approach a fractious horse when the inmates of some carriage are helpless or in danger, if we can by earnest prayer still the weakness that would induce us to consider our own personal safety before that of anyone else, I tell you a glorious recompense awaits us if we come off the conqueror.

Now in regard to walking; did you never feel a dislike to goihg out into the keen wintry air during some cold morning, and feel that you had much rather stay in-doors? Well, at such a time suppose you provide good well fitting boots, good mittens—they are much warmer than gloves—get warmly clad, and start out with a determination to laugh at storms or frost. For a little while, you may wish yourself back in a warm room, but after you have walked a half mile or so, the warm blood begins to tingle to the very ends of your fingers and toes, and as you unbutton your coat collar, and may be put your mittens in your pocket, you begin to feel like looking about and enjoying nature, in her robe of white. There is a kind of fascination, in feeling that you can defy the cold, and as you swing your arms, and draw in the full breaths of the delicious frosty air, and under its invigorating influence spring forward almost as if you had wings, you feel that a mile is a mere trifle, and wonder how you could have ever considered it a hardship to be obliged to "go on foot."

I believe I am now about ready to get at our beautiful text at the head of this chapter. It is not that I wish you all to take a humble seat in this world, but that you are perfectly satisfied and contented to do so. A man said a short time ago, "I have done more towards building up the town of Medina, than any other man, and yet what thanks do I get?" Do you suppose such a state of mind is an enviable one? You have heard people tell how they had worked themselves to death for the community in which they lived, and yet the more they did gratuitously, the more people expected of them, and that was all the thanks they got. Now while I am about it, perhaps instead of abusing others I had better own right up that I have been very fond of telling how much I have done for the world, and how little pay I have had, and how some one else has always taken all the credit of it. I do not believe I have done very much of it lately, however, for I havn't had time, and besides I thank the Lord that I have begun to see that the world is about right, that some one else, *does* deserve the credit of very much I had been so fond of calling my own. It comes about very much like going on foot to Sunday school; when we once get started, we find ourselves too busy in the Lord's service to stop to inquire whether we are doing something beneath our dignity or not, and by and by we are astonished to find ourselves so happy that even should some one say unjust and unpleasant things about us, we have lost all disposition to feel hurt or troubled about it at all, but can smile back as pleasantly and kindly as if it were nothing to feel worried about.

Two years ago the Women's Temperance League placed a tank of ice water on our streets and paid for having it kept supplied with ice all summer long. In the fall, with some difficulty a collection was taken up to defray the expenses. After it was carried on in this way for two years, they became discouraged and turned the water tank over to me to take care of. I decided to try an experiment on humanity, and resolved to ask no one for a cent; if my fellow citizens chose to partake of the water all summer long without caring who provided it, or how the expenses were paid, all right, and instead of blaming them, I would decide the fault to lie in the system and not the people. The ice cost just $25.00, and that entire amount to within a few cents, was handed me with pleasant words, and kind wishes, that were worth more than could be estimated in dollars and cents. One remarked that there was a temperance lecture that was really "business;" another, as he handed in a dollar, "a dollar for water, but not one cent for beer;" another, as he handed in the same amount, "I have boys on the street, and when they are thirsty, I wish them to drink water," and so on. It was suggested that a little bank should be kept over the tank, that pennies might be dropped into it, but I could not feel this to be just the right way, so long as we wished every one to feel that the water was free to all, without money and without price. One Sabbath, I told the children that God provided the money to pay for this ice, as we were studying about Elijah and the widow's handful of meal and cruse of oil. "Can any one tell how God sent that money," said I. "He put it into the minds of good men to come and hand it to you," was the immediate reply. Now dear friends, I would not for anything appear to boast of the way in which I have succeeded in this matter, for I may make a sad blunder this season with the same temperance question, but I do feel that God will move the hearts of the people to respond to all all good impulses if we can but get *ourselves* free from all these inclinations to be selfish, and to think everybody else is selfish and grasping, while we alone are liberal. We have just built an ice house this week, for that very water tank, and one of the Sunday school boys worked on it nearly three days free of charge, just because he fell in with the idea of supplying thirsty people with pure water, simply out of kindness and nothing else. For a while it seemed a hard matter to find cups that would stand the wear and tear, of poor, thirsty, tired and hurried humanity, and I was often tempted to get cross and scold the school children when they wasted the water and injured the cups, but I prayed for strength to put it away, and to look pleasant while I gently reproved them, or reasoned with the fashionable lady who scolded because the cups were chained up, or the stout thoughtless farmer who complained because they were so small. Were there not a great many who grumbled about the way it was managed and yet never paid a cent? Yes there were some such, but there always will be, and is it not the duty of us who see their errors to pity rather than censure? My friends, all these things are easily got over if we can only take that low seat the Saviour has tried to tell us about, even though we so seldom listen. A pair of glass tumblers or goblets would have been much nicer, but the little ones—bless their hearts—would want them too, and they were sure to be broken sooner or later, so there was no other way but to use the stout tin cups, with the chains. Pretty soon some who did not care to use the cups that were handled by every urchin, procured and kept just within the door, a neat glass goblet, and those who were sufficiently acquainted, of course used it. Now if I am not careful I shall get into an argument; on the whole I think I will leave you all to decide what you would do. Strangers of course, could not well do otherwise than to use the cups, and while our brothers and sisters in the streets were using the cups daily, should we fall into line, and do just as they did, even at the risk of being "poisoned" by drinking after some that were more thirsty than cleanly in their habits and appearance, or——get a goblet? Habits, education, natural sensitiveness, and a thousand other things stand in the way of our taking our seats among the lowly and humble, but oh, I tell you it is a safe place to take, until the voice of the people, really desire that we shall step up higher. It may not always be our place to take these low seats, but if we are in such a frame of mind that we are willing to take them if need be, how much worry and discontent we shall avoid.

When any one gets the first premium at a county or state fair, he is usually quite satisfied, but how about the multitude of brothers and sisters that do not get the first premium? Reader, did you ever know of any one who was dissatisfied with the way premiums were awarded? But there would be no unkind feelings, or at least very few, if we were as anxious in regard to our neighbors' welfare as our own. I know of somebody who carried a whole pile of comb honey, section boxes, fdn. in different stages of growth, etc., and who, when he got only second premium, felt it a pretty hard task to extend his hand in a friendly manner to the farmer who took the first on a couple of lbs. of very nice white honey in a rough, unplaned wooden box. The temptation was very strong to think the judges had some "spite" against me, and would not have given me the premium anyhow. One of them was one of the best men in our church, but as I took a good look at him after that premium business, I almost began to listen to suggestions from that green eyed monster to the effect that this heretofore good friend of mine had always been a secret enemy, despite his——"For shame! For shame!" broke in that better voice. "Are you too going to place yourself on a level with the man who swore at you and called you a liar, when you as one of the judges on horse trotting honestly decided that his horse had failed?" Do you wonder that I shuddered as I mentally prayed the Lord to forgive my wicked thoughts and to guard me from such miserably wicked feelings in the future?

"But I won't never take any more honey to their old fairs," would keep welling up, as I with much labor and fatigue got my treasures home after dark as best I could all alone, because everybody had gone some where else to seek their own pleasure. Do you not see that I was unhappy only because I coveted a higher seat than I deserved, and that I could not contentedly take a lower one when the best friends I had in the world had pointed it out to me? Why could I not put self aside and pleasantly submit to things as they were, even if they were a little "queer?" It is quite possible that awards are many times far from being just, but it by no means follows they are so intentionally.

After a little looking into the matter I ascertained that it was a very difficult matter indeed to find those who would serve as judges, and that if the ones who grumble would be on hand, they would gladly be welcomed to take the positions, and then they who saw so clearly the faults of others, would have the opportunity of meting out *exact justice.* I was astonished to find in our church much the same state of affairs; there were some who complained in strong, harsh terms of the way in which certain duties were performed, but when the officers were to be elected, those who complained would under no circumstances accept the office themselves.

If we take that low seat, that quiet contented peaceful frame of mind, do you know dear friends, that we shall have lost nearly all the disposition to complain and find fault? Not that it is our duty to submit quietly to every thing, by any means, but that we should make our complaints directly *to* the person at fault, and in a kind brotherly way. We should also be ready to receive complaints of *our* ways of doing things, in the same spirit, for we all do wrong and selfish things *every one of us.*

My wife wanted the stairs "fixed." A young carpenter was called in and showed what was needed. He came and did the work when only the children were at home, and made a very bad and awkward job of it. I advised that we should put up with it, rather than hurt his feelings and have a fuss about it, but she felt that she could not have our house marred in that way, and I finally consented to sending for an experienced hand, who was also an earnest Christian. He agreed that it was awful, but said he would fix it all, without any unpleasantness. He went first for the young man, brought him with his tools, and told him in plain terms, just what he had done. "Now," said he, "friend T., you must not get angry, for I am a good friend of yours; you will take this all out, and put it in good, and I will stay and help, and show you how." We had a nice job, the young man made no charge for the first work, and we all laughed about it pleasantly afterward. Is not that better than to have one mechanic jealous about having another take a job away from him, and is not such Christianity worth while? Do you suppose the better workman lost, by helping the one that was less skilful?

◆

QUOTATIONS OF HONEY.

BY C. F. MUTH, CIN., O.

White Clover Honey in full packages, (a bbl or ½ bbl)	per lb. 12½@15c.
White Clover Honey in tin cans of 10 or 25 lbs. net	per lb. 15@20c.
White Clover Honey in 1 lb. glass jars, 1 doz. jars in a case	per case, $3.00
12 cases of same	$32.00
White Clover Honey in 2 lb. glass jars, 1 doz jars in a case	per case, $6.00
12 cases of same	$60.00
Linn or Basswood Honey in original pkgs,	per lb. 12@14c
Poplar Honey in original pkgs,	per lb. 12@14c
Buckwheat Honey in original pkgs	per lb. 12@14c
These latter three varieties in tin buckets, of 10 or 25 lbs. net	per lb. 15@16
Tin Buckets 25 cents apiece extra. Barrels $1.00 extra.	
Comb Honey in boxes and frames	12½@22c
California Comb in Harbison's frames	12½@16c

Michigan Bee-Keeper's Association.

The next meeting of the Society will convene in Supreme Court Room, Lansing, on Wednesday, Mar. 14, 1877.

PROGRAMME.

7:00 P. M.

Prayer by Rev. George Duffield.

——MUSIC——

Some Thoughts from a Dealer, James R. Esselstyn, Lansing.
*The Honey Market, ...C. F. Muth, Cincinnati, O.
Inaugural Address by the President.
Honey as Food................Julius Tomlinson, Allegan.
Swarming, Discussion opened by
Hon. Wm. Jenny, jr., Mt. Clemens.

——MUSIC——

THURSDAY—9:30 A. M.

Prayer by Rev. T. P. Prudden.

——MUSIC——

The House Apiary—What is It? Why have It?
Sec. H. A. Burch.
Experience in Wintering............H. T. Ross, Milford.
Wintering on Summer Stands......J. H. Townly, Parma.
Desirable Combs—How Secured, Jas. Heddon, Dowagiac.
*How to Secure Box Honey...........J. Butler; Jackson.

1:30 P. M.

——MUSIC——

*Honey versus Commercial Syrups,
Prof. R. F. Kedzie, Lansing.
Ladies as Bee-Keepers, "Cyula Linswick" of Bee Journals.
A Woman's Experience as an Apiarist,
Mrs. L. B. Baker, Lansing.
Bee-Keeping as an Avocation,........Otis Fuller, Mason.
The Apiarist.........................Frank Benton, Detroit.
*Why I am an Apiarist............Will Porter, Northville

7:00 P. M.

——MUSIC——

Shall Farmers keep Bees.
Hon. A. B. Cheney, Sparta Center.
*How may we Improve our Bees.
Chas. Dadant, Hamilton, Ill.
The Reciprocal Benefits of Bees and Plants.
Prof. W. J. Beal, Lansing.
*Temperature in Relation to Successful Wintering,
G. E. Corbin, M. D., St. Johns.
Reports—Miscellaneous Business.

——MUSIC——

This meeting promises to be the best the State has ever held. Important questions are to be discussed. There will be an exhibition of honey and implements of the apiary. All—especially ladies—are cordially invited to attend. Entertainment will be provided as far as possible. Hotels give reduced rates. Brother bee-keepers, come and talk bees, look about the capital, and peep in upon your legislators.

A. J. COOK, Lansing, President.
H. A. BURCH, South Haven, Secretary.

*Expected. but not promised.

ITALIAN BEES.

Imported and home bred queens; full colonies and nucleus colonies; bee-keeper's supplies of all kinds, Queens bred early in the season. Send for catalogue.
9tf DR. J. P. H. BROWN.
Augusta, Ga.

I have just purchased latest improved machinery and can promptly furnish

Pure Beeswax Comb Foundation.

at the following low prices. Made from Yellow Wax, 70 cents per pound; White Wax, $1.00 per pound. Packed in light, wooden boxes—paper between the sheets. At above rates, the sheets will be cut to any desired size. Ten per cent. discount will be given on 50 pounds or more.

Wax delivered here, will be worked up for 40 cents a pound or for half the wax and 6 cents a pound on your share.

Highest cash price paid for pure wax. All Freight or Express charges to be paid by the purchaser. If ordered by mail, add 25 cents per pound to above prices. Samples by mail 10 cents. Enlarged Bee Circular ready April first. J. H. Nellis.
Canajoharie, N. Y. 3-5

DESCRIPTION AND PRICES

Of Hives and best Sectional Honey Boxes. For Carpet Stretcher and Tack Holder Combined. Sample by mail 30c. Agents Wanted. 3-4 BARKER & DICER, Marshall, Mich.

Choice Seeds!

Bee-keepers and all others who desire to purchase seeds for the farm, apiary, nursery, flower or vegetable garden; agricultural or apiarian implements, supplies, &c., should send for our new descriptive catalogue. Price list free.
Address, carefully,
C. F. LANE'S N-W. Apiary and Seed Warehouse.
3 Koshkonong, Wis.

ITALIAN QUEENS FOR 1877.

Queens bred from Imported or home bred stock. Safe arrival guaranteed. Will send you every time just what you order.

Unwarranted queen	$1 00
" " per doz	11 50
Warranted "	1 50
" " per half doz	8 00
" " per doz	14 00
Tested " before July 1st	3 50
" " after " "	2 50
" " " " " 4 for	9 00
" " " " " per doz	20 00
2 frame nucleus (frame 11x12) and tested queen after July 1st	5 00
5 same	20 00
Same and unwarranted queen	4 00
5 " "	17 00

2tf J. OATMAN & CO., Dundee, Ills.

IMPROVED

QUINBY SMOKER.

Box material for as desirable a box as can be made. General bee-keeping supplies.

Send for illustrated descriptive circular. L. C. ROOT.
2tf Mohawk, Herkimer Co., N. Y.

ADVERTISEMENTS.

Advertisements will be received at the rate of ten cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

W. C. GILLETTE, Leroy, N. Y., Breeder of Pure White Leghorn Fowls. Eggs $2.50 per dozen. SATISFACTION GUARANTEED. Will exchange for a few Stocks of Bees or Nuclei. 3-5

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 10c. each insertion, or $1.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 10c. each insertion, or $1 00 per year.

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, safe delivery, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use and imported queen moth- If wanted by mail, send 10c. extra.

*C. C. Vaughan, Columbia, Tenn.	3-8
*Wm. W. Cary, Colerain, Franklin Co., Mass.	3-2
*G. W. Dean, River Styx, Medina Co., O.	
*J. Oatman & Co., Dundee, Ill.	1-12d
*E. W. Hale, Wirt, C. H., West Va.	6-6
*J. M. C. Taylor, Lewiston, Fred. Co., Md.	1-6
*Dr. J. P. H. Brown, Augusta, Ga.	9tf
*Albert Potter, Eureka, Wis.	1-12
*Wm. J. Andrews, Columbia, Tenn.	2-2
*Hardin Haines, Vermont, Fulton Co., Ills.	2t4

Probably the first of June will be as soon as they can be furnished; those who want them sooner, will have to take higher priced ones.

Hive Manufacturers.

A. I. Root, Medina, Ohio.	
M. S. West, Pontiac, Mich.	6-5
Geo. W. Simmons, Newark, Del.	1 12
Isaac L. Parker, McMinnville, Warren Co., Tenn	3-2

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our ninth edition circular found in Feb. No., Vol. IV., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required*.

Canada postage on *merchandise* is limited to 8¾ oz., and nothing can be sent for less than 10c.

	Bees, full colony amply provided for winter, in our new two story, chaff hive (described Nov. and Dec. No's., '76), tested queen from imported mother, safe arrival guaranteed..(Lawn hive $1 more.)..	$15 00
	The same in a 1 story Simplicity hive..............	13 00
	The same in old style L. hive with portico, etc......	12 00
	The same with hybrid queen..........................	10,00
	The same not provisioned for winter.................	7,00

We think we can prepare bees for shipping safely any month in the year; when we fail in so doing, we will give due notice.

0	Binder, Emerson's, for GLEANINGS..........	50, 60, 75
	Balances, spring, for suspended hive (60 lbs)......	8,00
10	Blocks, iron, for metal cornered frame making....	15
	Barrels for honey, $2.50; waxed and painted....	$4,00

Buzz-saw, foot-power, *complete*; circular with cuts free on application. Two saws and two gauges included. $35 00

0	Buzz-saws, extra, 6 in. 1.50; 7 in., 1.75; 8 inch..	2 00
60	Buzz saw mandrel and boxes complete for 6 inch saws..	5 00
	The same for 7 and 8 inch saws (not mailable)..	8 00
	Comb Foundation Machines complete....$50 to	100 00
60	Chaff cushions for wintering..........................	30
25	Chaff cushion division boards..........................	20

Half price without the chaff, and postage 5 and 8c.

20	Candy for bees, can be fed at any season, per lb.	17
20	Corners, metal, per hundred....................	75
25	" " top only..........................	1 00
15	" " bottom, per hundred...........	50

On 1,000 or more a discount of 10 per cent. will be made, and on 10,000 25 per cent. The latter will be given to those who advertise metal cornered frames.

	Corners. Machinery complete for making..........	20 00
10	Clasps for transferring, package of 100..........	25
0	Cards, queen registering, per doz...............	10
2	Cages " all of metal........................	10
2	Cheese cloth, for strainers, per yard............	10
12	Duck, for feeding, and covering the frames—bees do not bite it—per yd. (29 inches wide).....	20
	Extractors, according to size of frame $7 50 to	10 00
	" inside and gearing..........................	5 00
	" wax..	3 50
7	Feeders, 1 q't, tin, can be used without opening the hive, in warm weather—neat and simple...	10
25	The same, 6 qts, to be used in upper story...	50
4	Frames with Metal Corners.......................	05
5	" Sample Rabbet and Clasps........	10
10	" Closed end Quinby, nailed	05
0	GLEANINGS, Vol's I and II, each 75c., Vol IV	1 00
50	Gearing for Extractor...	1 50
20	Gates, Honey, for Extractors...................	50

SIMPLICITY BEE-HIVE.

One body and 1 cover in the flat, as sample to work from.. 80

One story hive for extractor (body 50c—2 covers 60c—nailing and painting 20c—quilt 25c—10 frames 60c—crating 10c)................................ 2 25

One story hive for comb honey is precisely the same as the above, substituting 2 frames of sections for 4 metal cornered frames........................ 2 25

The above 16 sections will be fitted with fdn., and starters ready for the bees, for 15c, and the tin separators added for 10c, making whole complete.......... 2 50

The above two hives contain everything used in a 2 story hive. We simply use another body filled with frames or sections, for a 2 story hive.

For a 2 story hive for the extractor, add (to 1 story 2 25) body 50c—nailing and painting 10c—10 frames 60c—crating 5c, making complete 2 story containing 20 frames.. 3 50

For a 2 story hive for comb honey add (to 1 story 2 25) body 50c—nailing and painting 10c—6 frames of sections 78c—1 metal cornered frame 6c—crating 6c, making complete 2 story containing 7 frames and 64 sections...................................... 3 75

If filled with fdn. starters 60c—if also filled with tin separators 40c, making $4 75, if two latter items are wanted.

To prepare the above hives for winter, put in place of the 2 outside frames chaff cushions, price 20c each, and a thick one on top 30c.

CHAFF HIVE FOR OUT DOOR WINTERING, 10 frames below, and 14 frames or 80 section boxes above, well painted and finished complete ....(Lawn hive $1 more.)....... $5 00

These hives, if supplied with stores, will, we hope, need no attention whatever, from the time honey ceases until it comes again the next season.

0	Knives, Honey (½ doz. for $5 25)............	1 00
	Labels for honey, in blue and gold, dark bronze and gold, or in white printed in two colors, furnished with your own address, and source from which the honey was gathered, already gummed, post paid by mail, (no order rec'd for less than 250). At these low rates, the full number mentioned *must* be ordered without the change of one single letter of the type..................	1000, $3,25; 500, $2,40; 250, $1,80
0	Lithograph of the Hexagonal Apiary........	25
	Lamp, Nursery......................................	5 00
0	Larvae, for queen rearing, from June to Sept.	25
15	Microscope, Compound, in Mahogany box...	3 00
0	Prepared objects for above, such as bees' wing, sting, eye foot, etc., each..................	25
0	Medley of Bee-Keepers' Photo's, (150 Photo's)	1 00
0	Magnifying Glass, Pocket........................	60
0	" " Double lens...............	1 00
7	Muslin, Indian head, for quilts and cushions per yard..	10
	Paraffine, for waxing barrels, per pound....	20
0	Photo. of House Apiary..........................	25
2	Rabbets, Metal per foot..........................	02

SECTION BOXES IN THE FLAT, PER 1,000.

Any dimensions not exceeding 2x5x5..................... 10 00

The above is 50 cubic inches; for larger sizes add 10c per 1,000 for each additional cubic inch or fraction of an inch, outside measure. Extra prices for less than 500.

2x4¼x4¼, just right to fit in L. frames ....

These are put up in packages (of 64 each) containing just enough for a 2 story hive.......................... 60

Sample by mail with fdn 5

If the grooving for holding the fdn. is omitted, 25c less per 1,000. Sections weigh from 7 to 10 lbs per 100.

10	L. frame made 2 inches broad to hold 8 sections	5
25	The same with 8 sections..........................	13

25	The same furnished with fdn. starters all ready for the bees	20

Adding tin separators to either of the above will increase the price 5c, and the postage 6c.

4	Section boxes, fancy, hearts, stars, crosses, etc. each	5
3	Sheets of duck to keep the bees from soiling or eating the cushions	10
0	Scissors, for clipping queen's wings	40
18	Seed, Alsike Clover, *raised near us*, per lb.	25
18	" Summer Rape. Sow in June and July.	15
0	" Chinese Mustard, per oz.	25
18	Silver Hull Buckwheat	10
10	Smoker, Quinby's (to Canada 15c extra)	1 50
5	" Doolittle's	25
2	Tacks, Galvanized	10
3	Thermometers	40
0	Veils, Bee, with face of Brussels net, (silk)	75
0	The same, all of tarletan (almost as good)	50
5	Wire Cloth, for Extractors, per foot	15
	" " Queen Cages	15

All goods delivered on board the cars at prices named.

☞We will pay $1.00 cash, for Vol. III. A. I. ROOT.

E. W. HALE'S
Price List of Bees, Queens, Etc., for 1877.

1 Full colony .. .. with tested queen	$13 00
1 three frame nucleus " " "	5 50
1 " " " " dollar "	4 00
1 tested queen	2 50
1 untested "	1 00

A discount of 10 per cent will be made on all orders of more than $10.00 each. All my queens are raised from *Imported Mothers*, I only guaranteeing the safe arrival *of all tested queens* within 1000 miles. The money must accompany each order, and all orders will be filled strictly in rotation. My location enables me to furnish queens much earlier than parties farther north. Address,

2-10d E. W. HALE, Wirt C. H., W. Va.

FOR SPRING DELIVERY!

250 *Colonies Italian Bees.*

1 to 3 Colonies, each	$9 00
5 to 10	8 50
10 to 25	8 00
50 to 100	7 75

Our bees are all healthy and free from foul brood, and most of them have queens of last year's rearing. Safe arrival guaranteed by express. We guarantee satisfaction in *all* our transactions. Address

2-5d J. OATMAN & CO., Dundee, Kane Co., Ill.

Averill Chemical Paint.

THE *ONLY* RELIABLE.
THE *MOST* BEAUTIFUL.
THE *MOST* ECONOMICAL.
THE *MOST* DURABLE.

Requires no oil thinner or drier,
Requires no waste of time in mixing,
Has stood *eight years' criticisms*
With *yearly increased popularity*
And *yearly increased* sales.

Is sold by the gallon only, in packages of from 1 to 40 gallons each, in Purest White and any Color or Tint desired.

Address, for sample card of colors and price list,

Averill Chemical Paint Co.,
Office and Factory 132 & 134 East River Street,
CLEVELAND, OHIO. 6-6-'77

QUEENS From The SOUTH.

Italian queens furnished the coming season at the following prices:

1 tested queen	$3 00
6 " "	15 00
1 untested queen	1 00
6 " "	5 00
Full colonies in Langstroth hives	12 50

☞Safe arrival of *all queens* guaranteed.☜

Purchasers must assume all risk in the transportation of full colonies.

As prompt attention as possible will be given to all orders, and *satisfaction guaranteed.*

2tf RUFUS MORGAN, Raleigh, N. C.

THE BEE-KEEPERS' MAGAZINE, an illustrated monthly journal of 32 octavo pages, devoted exclusively to bee-culture; edited by ALBERT J. KING, containing contributions from Mrs. Ellen S. Tupper, and experienced bee-keepers in America and Europe. A large space is devoted to beginners, giving useful information just when it is most needed throughout the year. Terms, $1.50 per year. The Bee-Keepers' Text-Book in *German or English*, and the Bee-Keepers' Magazine one year $1.70. A 64 page pamphlet (price 50c) containing a beautiful life-like **Chromo** of **Honey-Plants** and **Italian Bees** in their natural colors, with prize of Mrs. Tupper, Queen rearing by M. Quinby, instruction for beginners, etc., sent *free* with the Magazine, on trial, 4 months for 50 cents. Agents wanted—cash commission and permanent employment. Address

A. J. KING & CO., 61 Hudson St., N. Y.

Full Stocks of Yellow Bees for Breeding or Honey,—as good, as cheap as any. W. F. B. Spanish Hens' Eggs for hatching. 23 years in perfecting them. Now Sitting. Warranted not Excelled.

3d J. M. MARVIN, St. Charles, Kane Co., Ill.

BEFORE PURCHASING

Supplies for your Apiary, send a Postal Card for our Price List of Hives, Frames, Sectional and other Boxes of any desired pattern, Comb Foundations, Metal Corners and Tested and Untested Queens from Imported mother.

J. C. & H. P. SAYLES,
3-8d Hartford; Wis.

THE
British Bee Journal,

Is a large, beautifully printed, and profusely illustrated MONTHLY; clear type and fine heavy paper. It is conducted by CHARLES NASH ABBOTT, Hanwell, W., London, England. Annual subscription, half-a-guinea.

We will send it with GLEANINGS and pay all postage for $2.50.

TERMS: STRICTLY CASH IN ADVANCE.

One copy one year $1 00, or with Lithograph of Apiary, size 12x15, mailed free, postpaid, $1 25, or Lithograph will be sent as a premium for two Subscribers at $1 00 each.

Any person obtaining three Subscribers at $1 00 each, may retain 50c. for his trouble.
" " five " " " " 1 25 " "
" " ten " " " " 4 00 " "

Any number above ten will be sent at the rate of 60c. each.

Or, GLEANINGS, $1 00; three copies, $2 50; five, $3 75; ten, $6 00.

Names may be sent at any time during the year, and whenever a club is reached, we will credit back the amount previously sent us in excess of the club rates. In this way any of the

Articles Mentioned on our PRICE LIST may be Secured as PREMIUMS.

Please mention when names are intended for clubs. An acknowledgement will be sent in all cases on receipt of money—for any purpose whatever—by return mail. Volumes I and II at 75c. each, Volume III (second hand) at $1.25, or Volume IV at $1.00 may be counted on the same terms, as we have a

Large Supply of BACK NUMBERS Provided for new beginners.

As we can not take the space in future numbers to go over the same ground again, and Volume I contains the entire Fundamental Principles and

Ground Work for Starting an Apiary.

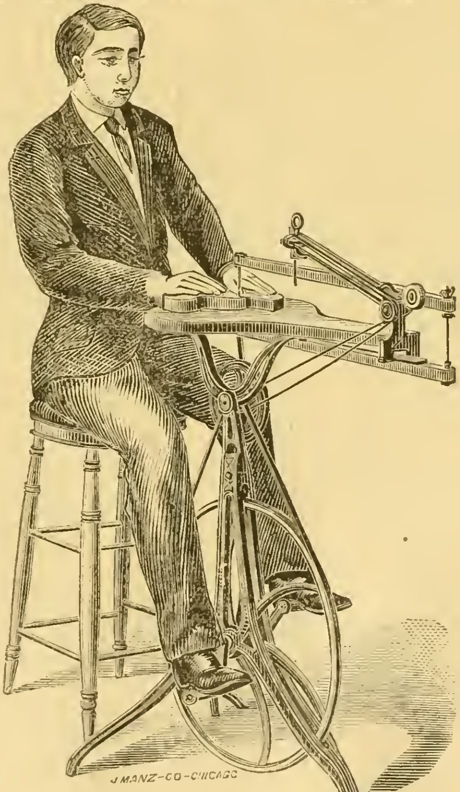
GLEANINGS IN BEE CULTURE

Devoted to Bees and Honey.

And Peace on Earth and Good Will toward Men.

PUBLISHED MONTHLY, AT MEDINA, OHIO,
BY A. I. ROOT.

Vol. V April, 1877. No. 4



The Velocipede Scroll Saw.

The above machine is specially adapted for boys work, and if you are in need of any fancy section boxes, a boy of 12 or 15, will with it furnish you any number on short notice. Price $15,00.

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MARCH 31ST.—We have *now* 1,696 subscribers.

FRIEND C. F. LANE, of Koshkonong, Wis., sends out a very pretty catalogue of seeds in general, and gives us, for the first time, a complete list of all the principal honey-bearing plants.

OUR friend, Hardin Haines, seems to have such an inveterate way of counting his chickens before they are hatched, that we feel it a duty to caution our readers against placing too much faith in his printed statements.

YES, we *are* going to have the bee-disease this year, too; three have died in the house apiary and two outside, and they all died because they were at one side of the hive, and the honey at the other. Just one hundred colonies left.

Choice Seeds!

Bee-keepers and all others who desire to purchase seeds for the farm, apiary, nursery, flower or vegetable garden; agricultural or apiarian implements, supplies, &c., should send for our new descriptive catalogue. Price list free. Address, carefully,
C. F. LANE'S N-W Apiary and Seed Warehouse,
4 Koshkonong, Wis.

REMOVAL.

The Brooks Bro's. have removed their Apiary *from* Columbus to Elizabethtown, Ind., and would be pleased to send you their new circular. Send for it before purchasing your queens or bees.
Address, J. M. BROOKS & BRO.,
4-9d Elizabethtown, Ind.

ITALIAN BEES FOR SALE.

Great Reduction in Prices.

Mrs. Adam Grimm will sell, and ship between the 1st and 20th of May, 1877, the remainder of her bees, amounting to about 450 Good Colonies. at the following prices:

Pure Italians, from	1 to 5, each Colony	$8 00
" " "	5 to 10, " "	7 50
" " "	10 to 20, " "	7 00
" " "	20 to 100. " "	6 50
Hybrids descending from Pure Italians,		
	1 to 20, each Colony	6 50
	20 to 100, " "	6 00

Safe arrival guaranteed if ordered in lots of less than 25.

Being appointed administratrix of the estate, I must sell said bees this spring, as the estate will be settled within a year.
MRS. ADAM GRIMM,
3—5d Jefferson, Wis.

Wm. W. Cary. Colerain, Franklin Co., Mass. Sixteen years experience in Propagating Queens direct from imported mothers, from the best district in Italy. Persons purchasing Queens or Swarms from me will get what they bargain for. Send for circular. 3 in q.

Italian Imported Bees & Colonies.

PRICES GREATLY REDUCED.

Full Colony with Imported Queen	$14 00
" " home bred Tested Queen	10 00

Special rates for large quantities. All the Colonies sold are in *new* and well painted movable frame hives; all combs straight.

1 Imported Queen after June 1st	7 00
2 " Queens " " each	6 50
6 " " " " "	6 00
12 " " " " "	5 50
Single Queens to Old Customers	6 00

Safe Arrival Guaranteed on Queens and Colonies.

References furnished in nearly every State in the Union and Canada, or among the most noted Apiarians of Europe. Send for Circular to
CH. DADANT & CO.,
3d Hamilton, Hancock Co., Ill.

MUTH'S ADVERTISEMENT.

HONEY JARS!

One pound (square) jars, per gross	$6 00
Two " " " "	8 00
One " " " flint glass per gross	8 50
Two " " " " " "	10 50
Corks for 1 and 2 pound jars	75
Tin foil caps, per gross	1 20
Labels " "	75
A thousand labels address printed to order	5 00
One qt. fruit jars, Mason's patent, per gross	17 00
Labels for same, " "	65
A thousand labels address printed to order	4 00
Uncapping knives, as good as any, each	50
" " per dozen	4 50
Alsike clover seed, per bushel	13 50
" " " " peck	3 50
" " " " pound	40
Catnip seed, per pound	6 50
" " " ounce	50

Langstroth Bee Hives,
Straw mats, bee vails etc., at reasonable rates.
For further particulars, address
CHAS. F. MUTH, Cincinnati, O.

TABLE OF PREMIUMS.

The first column is for those only, who send 5 or more names.

Any of them sent post-paid on rec'pt of price.

Names of Premium Articles.	*Prices of Premiums*	*Number of Subscribers required at* 75c.	*or at* 1.00
1—*Lithograph of Apiary, Implements, etc.*	25	5	2
2—*Photograph of House Apiary*	.25	5	2
3—*"That Present," Novice and Blue Eyes*	25	5	2
4—*Emerson's Binder for* GLEANINGS, *will hold 4 Volumes*	.50	6	3
6— " " *better quality*	.60		3
7—*Pocket Magnifying Glass*	.60	7	3
8—*First or second Volume of* GLEANINGS	.75		4
9—*Best quality Emerson's Binder for* GLEANINGS	.75	8	4
10—*Double Lens Magnifier, on 3 brass feet*	1,00	9	4
11—*Photo Medley. Bee-Keepers of America*	1,00	9	4
12—*First and second Vol. of* GLEANINGS	1,50	10	6
13—*Centennial Cabinet Clock; a pretty and accurate time piece, that will run even when carried about, for only*	$2 00	15	7
14—*A real Compound Microscope, beautifully finished, and packed with Implements in a Mahogany Box*	3 15		8

HONEY-COMB-FOUNDATION MACHINES.

Latest! Cheapest! Best!

Send Stamp for Circular and Samples of work.

Address, A. J. KING & CO.,
3-5d 61 Hudson St., N. Y.

CASH FOR BEES-WAX.

We are paying 31 cents per pound for yellow beeswax, in lots of from 50 to 5,000 or more pounds, delivered at Syracuse, or 32 cents, if exchanged for white wax. If you have any wax on hand, and can deliver it at the above price, please do so, and we will send you our check on receipt of the same.

ECKERMAN & WILL.
7-7-77 Wax-bleachers, Syracuse, N. Y.

Doolittle's Advertisement.

Having had many calls for wares used in our apiary, we have concluded to sell for samples, as below; that our bee-keeping friends, if they desire, may have a pattern to work by in making them.

Doolittle's improved Gallup hive with 30 boxes and cases and wintering arrangement all complete	$6 25
Standard Gallup hive with 21 boxes and cases all complete	3 25
The above are well painted, with tin roof.	
Sample set of cases with 21 boxes that will fit any frame hive at top 14x20 (outside measure) or larger	2 00
Sample case with 3 boxes	40
Sample case with 2 boxes (by mail 16c extra)	35
Sample box ready to nail (by mail 3 cts. extra)	03
Boxes by the 100 ready to use	2 50
Boxes by the 100 ready to nail	1 75
Tin tacks for fastening glass in honey boxes, sample by mail 6 cts.; per 1000, 40 cts.; per 5000, 35 cts.; (by mail 8 cts. extra per 1000).	
Block to nail boxes on (by mail 35c extra)	1 50
Block to tin boxes on (by mail 25c extra)	50

Address, G. M. DOOLITTLE,
12-4 Borodino, Onondaga Co., N. Y.

COMB FOUNDATION.

Having purchased a machine for my own use I will furnish the fdn. in strips any length by 5 inches or less wide at 75c. per lb. if I can get the

Bees-wax Wanted.

I will pay 30c. cash for clean yellow wax delivered here. I refer to the Editor of this Journal.

GEO. M. DALE.
Border Plains, Webster Co., Iowa. 3-5

One Hundred Colonies

PURE ITALIAN BEES FOR SALE CHEAP. Send for Circular and Price List. C. C. VAUGHAN,
3-8 in q. Columbia, Tenn.

Comb Foundations!

PURE BEES WAX.

Cut to any size desired.

PACKED IN NEAT WOODEN BOXES—PAPER BETWEEN EVERY TWO SHEETS. AT $1.00 PER POUND FOR THE WHITE, OR 75 CENTS PER POUND FOR THE YELLOW.

Or, if you prefer, 12 & 16c. *per square foot.*

IF WANTED BY MAIL. ADD 25 CENTS PER POUND FOR PACKING AND POSTAGE.

If taken in our regular packing boxes, sheets 12x18 inches, 10 per cent. off from above prices on 10 pounds or over.

Wax will be worked up to order, and cut into sheets of any size desired, for 10 cents per pound.

We will pay 30 cents per pound cash for bright yellow wax, or sell it for 35.

One pound of wax makes from 4 to 8 square feet of surface. The thinnest will be used by the bees, but is not made into comb as quickly as the heavier, which has a greater depth of cell.

Sheets just right for L. frames, both white and yellow, kept constantly in stock ready for shipment; also square sheets for section boxes. About 6 of the former or 30 of the latter weigh 1 pound.

At above prices we can pay no freight or express charges either way.

The only wholesale rates we can give is 10 per cent. off from above rates on orders for 50 pounds or over, or 20 per cent. on 100 pounds or over.

Comb Foundation Machines.

Machines for making sheets 1 foot wide	-	$100 00
Expressly for L. frame, 9 inches wide	-	50 00
For making 5 inches for section boxes	-	30 00
Double Boiler for above machines,	-	$3.00, 3.50 and 4.00
Dipping plates per pair,	- -	$1.00, 1.50 and 2.00

The above prices are for cells 4½ or 5 to the inch. If drone size is wanted, add $10, $5 and $3 respectively to above prices. The machines are all ready for use, and full instructions will be sent to each purchaser.

Address, A. I. ROOT, Medina, Ohio.

We have sold machines for making fdn. to C. O. Perrine, New Orleans, La.; to D. A. Jones, Benton, Ont., Canada; to J. M. Madory, Los Angelos, Cal.; to Lewis Walker, Ventura, Ventura Co., Cal.; to G. M. Dale, Border Plains, Ia.; to Rev. J. Van Eaton, York, Livingston Co., N. Y., and to G. W. Gates, Bartlett, Tenn. The three former were 12 inch, and the rest, 5 inch machines. We presume all will be ready to furnish fdn. at our prices.

ITALIAN QUEENS,

By mail, and safe arrival guaranteed. Unwarranted Queen, $1. Warranted, $1.50. Also dealer in and maker of Hives, Frames, Metal Corners, &c., &c. Send for prices. Send in your orders with the cash, as I shall begin to ship Queens the 1st of May. Those preferring can order through Ed. *Gleanings.* Address,

3tfd T. B. PARKER, Goldsboro, N. C.

Hurrah for Canada.

Let's have Free Trade. A Universal and Adjustable Honey Extractor for $5.00, all Metal, no Cog Gearing, no Slipping of Belts, a Stationary Can, a Perfect Machine. Will take Frames from 10 to 18½ inches in Length, and 15 inches Deep, Warranted to give Satisfaction or Money Refunded. Metal Corner Frames $4.00 per hundred. Sectional Frames any Size within reason, 1c. each. Hives, Smokers, vails, etc., etc. Circular and Price List free.

Address M. RICHARDSON.
Port Colborne, Ont. Can. 3-4

CLUBBING LIST.

We will send GLEANINGS—

With The American Bee Journal	($2.00)	$2.50
" The Bee Keeper's Magazine	(1.50)	2.00
" The Bee World	(1.50)	2.25
" Both, The Bee Journals of America,		4.00
" British Bee Journal	($2,60)	2,50
" All Three		5.50
" American Agriculturist	($1.60)	$2.25
" Prairie Farmer	($2.15)	2.90
" Rural New Yorker	($2.50)	3.25
" Scientific American	($3.20)	3.90
" Fruit Recorder and Cottage Gardener	($1.00)	1.75

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These hand books that tell us how to do things, not only educate us, but they are often the very best investment that one ever makes, and the small amount they cost, comes back many times every year if they are faithfully read. When we get interested, is just the time to read up a subject. We hear of receipts for doing certain things, being sold for many times the cost of these books that contain the same thing and ever so much more, and often with illustrations fully explaining the work. I never spent happier hours than in reading my poultry books when I was a boy; and while busy with my coops and yards I not only avoided idleness and bad company but I educated my hands in the use of tools, as well as my mind in the science of profit and loss. Parents if your children have any taste for these useful pretty handbooks, is it not a duty of yours to encourage it by judicious purchases?

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HOW TO WORK IN THE SHADE, &c.

ALSO SOMETHING ABOUT ARRANGING HIVES.

J. O. WINFIELD, page 270, asks, "Do you know a modern bee-keeper who has lived to the age of 75?" How is it with our old friend Mr. Jasper Hazen who is now 84 or thereabouts? I would advise Mr. Hubbard to get a stick of proper length and thickness: point one end and bore into the other a hole large enough to receive the shank of an umbrella. In front of the hive make a hole with a crowbar and put the stick into the hole and the umbrella into the head of the stick, then go ahead on handling bees and be happy.

Your illustrated and instructive covers are perfectly charming, as a page of illustration seems worth a dozen of explanation. "Doolittle's Apiary" and "Friend Rice's Apiary" are worthy of preservation. May we hope to see "Friend Dadant's Apiary" sometime when it may come right? But, it seems as if you ask, "Why don't you send a photo of your own, friend K.?" Well, I believe I could show you handsomer hives than I ever have seen but there are only 25 of them and these much scattered, but we may get them arranged sometime and show you how we look. Meantime would like to see the "bigger apiaries" if advisable.

WM. H. KIRK, Waterbury, Conn., Nov. 24th, '76.

Thank you, friend K., for your very ingenious idea. Of course it will be some trouble to have a stake made and planted near each hive, but it will doubtless be an excellent investment for those who cannot work in the broad glare of the sun. As for us, we never feel better than when right out in the sun at noonday, and aside from getting burned, we should have no objections to working bareheaded. Where the grape vines are used, the umbrella can readily be slipped into a socket of tin, nailed to one of the trellises. If you use a chaff hive, fasten the socket to the back side of the hive. Planting your hives under trees, will partially answer the same purpose, but we think it pretty well decided that the shade of large trees is not exactly what is wanted. We want all the sunshine we can get on the hives in the spring and fall, and every morning and evening during the summer months, and trees do not give this. Grape vines properly trimmed, seem to answer every purpose, and the fruit amply repays for all trouble. L. C. Root recommends movable roofs for the purpose; these would be expensive, and would be liable to be blown off unless fastened at an additional expense, and would be unsightly unless still more expense were taken in making and painting.

We must have our apiaries neat and tidy, or how can we expect to enjoy ourselves among the hives? I have a friend living near, who has lately commenced keeping bees, and he seems determined to arrange his hives much as they would look if they had been pitched out of a wagon in the dark. They are at unequal distances, not square with the points of the compass, not in lines any way, none of them set level, some directly on the ground, some on twisted and warped boards, some set upon broken boxes, and unsightly ditches, brush and crooked rubbish, finish up the picture. We would really have an engraving made of the whole for a warning, were it not that such apiaries are perhaps a familiar sight to you all. While there, we fixed his two chaff hives, in pretty fair shape, and with a bushel of sawdust to spread around them, they would make a very pretty picture alone.

Now, my friends, if you place your hives more than 6 feet apart from center to center, you are wasting your ground, wasting your time and strength in traveling from one to the other and increasing the labor of taking care of your surplus without benefiitng the bees in the least. You also will gain much by arranging them in the hexagonal shape, for the reasons above given, and if you use hives that are to be shaded, you certainly can have nothing prettier than the grape vines. House apiaries are, of course, already shaded, both for the bees and for their owner.

We shall be very glad indeed to have engraved cuts of any apiaries that we think may prove interesting and instructive to our readers, but we do want to see a little more system and order than are shown in most of them. Go into our cities, and note the system and order that prevail in their offices and workshops, especially those recently put up, and see if we are up to the times in our apiaries. It is almost as easy to put things in good shape, as it is to have them in such woeful disorder, and the time saved in working with our implements afterward, will pay handsomely, for the extra expense. An apiary of 15 or 20 hives, tastefully and conveniently arranged, will make a very pretty picture. If some of our California friends will send us photographs we will pay all reasonable expenses for taking them.

ADVERTISING, DOES IT PAY?

FRIEND NOVICE:—You said some time ago you wanted us to tell whether or not our ads. paid. Well, I advertised my bees three times in GLEANINGS and also in *A. B. J.*, and received *three* postals of enquiry. I sent *long* answers telling *all* about them. Two I never heard any more from, and one, a Pa. man, sent card that he would be here soon as the holidays were over. Christmas has passed here 30 days—do you know how long the holidays last in Pa.?—and no man come yet, nor have I sold a single colony. Now, did my ad. *pay*, do you think? Well, one consolation is, I have the bees all in good condition, and they have had a four days' fly, and weather still lovely. Bees got plenty honey in their hives, and I have at least two full combs of honey for each hive, put away for a late, wet spring, and I have hired my help for the farm for one year, so if my health is good I can give my bees full attention. Who is more independent than I? If I can't sell bees I can raise bees and sell all the honey they gather. Well, as I have to keep the bees I will have to have G., so send it along enclosed $1.00.
H. NESBIT.

Cynthiana, Ky., Jan. 30th, 1877.

It would seem from the above, that it does not pay to advertise bees in the fall, and as we have said before in view of the disastrous losses in wintering, we can hardly be surprised. We are very glad indeed to have you speak out, friend N., and we are glad to hear you can sell all the honey you can raise. We think an advertisement of bees in the spring, will usually pay if the prices are low, for we heard last season from many of our readers who purchased bees of Mrs. Grimm, and we believe all were satisfied. We are now receiving considerable money every month from our advertisers, and we wish you to state plainly whether the investment is a good one. We are very careful to admit no advertisement that does not give an honest statement in regard to the goods, and none from parties who are not in good standing, and of good habits.

A VISIT TO DADANT'S, &c.

I HAVE been over to Mr. Ch. Dadant's. He has over 300 colonies. I don't see how bee men can find fault with his bees. They are of a leather color, though you can see 3 bands around them. High-colored bees are much the nicest, though the dark ones, as I have tried both, gather the most honey. Bee men say hybrids make the most honey. This is a mistake, with me, any way. My best Italian stands made me 172 lbs., my best hybrids only 81 lbs. I treated them both alike, had the same amount of bees, etc.

About Mr. Dadant and son, they are the most sociable bee men I ever came across. I am going to purchase of him 25 of his best stocks with 4 imported queens. I have 3 now. I have sent to Italy and Cypress islands for 30 queens, and will sell most of them; have bought 2 Cyprian queens. Am going in the bee business extensively this year—will run 100 colonies; do you think I can manage that many? 75 are pure, and 25 hybrids. The hybrids I will give Italian queens, early, so as not to interfere with my queen raising. There being no black bees in 3 miles of us, I can raise 100 without any trouble. My 100 queens will be 9-10 pure. My bees will all be at home April 1st. I have lost 1 nucleus colony this winter. Hives all packed with chaff. Think that is the way to winter. My school will be out this week, and then I will begin work getting out hives, boxes, frames, &c. I won't wait till June this time before I make hives. The Western Illinois Bee-Keeper's Society will meet at Monmouth, on April 10th. Don't pou think these societies do a great deal of good?

Did you ever! I looked in one of my hives to-day, and there is brood in all stages; young bees just coming out. If the weather keeps warm as it is now, and if we have an early spring, we can soon ship bees and raise early queens. If persons want early queens, unwarranted, I can furnish them by the dozen for $9.00, and guarantee safe arrival.
HARDIN HAINES.

Vermont, Fulton Co., Ills, Feb. 19th, 1877.

P. S.—Find enclosed 25c. for which please publish this letter.

We hope you will forgive us friend H., for apparent unkindness in printing your P. S., but if you reflect a moment, you will see that it is no more than you would wish us to do unto others. If an article in the reading columns was paid for, even to the extent of the small amount just mentioned, we feel that it is due our readers to know it, and we hereby remind our readers that if they send us money for the insertion of articles, we can only consent to do it with a clear understanding by all, that pay has been received for inserting the article.

We fear, friend H., that you will not, with your youth and limited experience, be capable of managing so many. And we fear, too, that you are making extravagant calculations on many things. If we are correct, there has never as yet been a Cyprian queen received alive in America, and would advise you to wait until they are safely at hand, before you advertise them. Will it not be better to give us a fair and honest statement of what you have now, rather than of what you are going to have?

TRANSFERRING IN WINTER, AND CUTTING BEE TREES.

ABOUT the middle of January last I helped a neighbor transfer a small colony of bees that was given to him, not supposing they would survive the winter. We transferred from box hive to one of my improved frame hives, and a few days ago we opened them and found them alive and jolly as crickets. They had built a piece of comb almost 2 inches wide. The hive after transferring was placed in a closet within 5 feet of a stove where fire was kept every day and Sunday too, with not more than a pint of bees. He shut them up tight by stuffing a piece of thin soft carpet in the entrance below and several thicknesses on top of frames, so you see the upper and lower ventilation theory has gone glimmering, in this instance at least. This not only smashes ventilation but proves that bees can be tranfserred at any time of the year if carefully done. We waited a week or more for a warm day so we could work out of doors but not getting one to suit we carried them into a warm room and safely changed them without losing a dozen bees, while the thermometer without was looking around zero.

W. A. Douglass found bees in a beach tree; they went into a hollow only a few feet from the ground. After promising the owner of the tree the first swarm, he cut the top of the tree off above the hollow, then backed a wagon with straw in the bed, cut the stub, eased it down into it, hauled it home, split the log and transferred them. He came very near not getting the queen, but finally found

her snugly hid in a crevice, and they are now doing well.
JOHN R. LEE, Oxford, O., Feb. 17th, 1877.

While narrating the way in which very difficult feats, such as transferring in winter, have been performed, we should bear in mind, that perhaps great numbers have tried to do similar things, and have said nothing about it, simply because their experiment was a failure. On the other hand, it gives one so much confidence when he succeeds, that it is well worth the trouble where one has time. The plan of getting the bees from a tree, is all right, where the conditions will admit of it.

HAIR MATTRESSES, VERSUS CHAFF CUSHIONS, ETC.

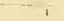
MUCH has been said about wintering bees, but I have not heard one word about hair for packing the hives; I have tried it for hives out doors, for the last 3 winters, and nothing can equal it. It is far ahead of chaff in every respect, it never gets damp or mouldy, no matter how wet the hive, and always keeps the bees warm and healthy. A man, such a natural genius as I take you to be, I should think would have used it before this. In fact it is said you have chaff on the brain, but if you use hair I am sure you will then have hair on the brain, where it belongs; (I hope you are not bald headed.) I use common hog's hair that I get from the brush factory for nothing; hog's hair must be plenty in Ohio, the great hog state. It might be well to wash it and let the hog smell get out before using, and it will last almost forever except the little waste. I am trying hair, chaff and dry leaves this winter on 17 hives out doors. On February 1st it was a very warm day, I found every hair packed hive as dry as a chip, the chaff packed a little damp, and the hives packed with leaves quite damp, no more leaves for me. I opened all fly holes, cleaned out hives and took off covers, and they had a *glorious* good fly. All alive so far, but I shall look for spring dwindling, for we had a very severe drouth last summer lasting from middle of June to September 17th; so dry that trees on hills and mountains died out and looked as yellow as if frost-bitten, and of course the bees could gather nothing. They stopped breeding very early and of course we now have very old bees to winter. November 1st I packed mine for winter, found they had no pollen or brood. Many of them had consumed a great part of their stores, but luckily I had quite a number of full frames of early honey, which was given them, and I hope enough to last until time to feed in spring. I may have to feed in spring but spring fussing I do not like, but always give them plenty of rye flour. MARCUS DU BOIS.

Newburgh, N. Y., Feb. 10th, 1877.

We have often thought of hair, fur, feathers, etc., and did experiment last winter with a colony done up in wool, but they got tangled among it in such a way, that we desisted. A friend uses cushions made of wool, and we believe with good results, although they are rather more expensive than chaff or cotton. We were not before aware, that anything in the shape of hair could be obtained cheaply. Will others look into the matter and report. The covering for all these various cushions, we think will have to be made of duck, for any other fabric will be soon gnawed through. Many of our friends have wasted money in trying different kinds of woolen cloth about their hives. Everything we have tried is sooner or later eaten full of holes and spoiled by the bees, except the hard twisted cotton such as we have mentioned. Even the Indian head, is often soon spoiled, if put close to the cluster. (We *are* bald headed, but please don't mention it.)

LONG HIVES AND HOW TO USE THEM.

AT LEAST ONE, WHO STILL HOLDS TO THEM.

MY frame is about 13½ by 11 deep, and I take all my surplus with the extractor and all light honey. The hive is a chaff hive made 3 ft. long and 25 inches wide, and it should be high enough to admit surplus boxes, made of planed lumber. The bottom board is nailed under the whole; then 2 boards 3 ft. long and 13 inches wide are got out and rabbeted, with hoop iron for the frames to rest on, and nailed inside, the right distance apart. Now the cardinal principle with us is to winter two swarms in one hive, and the entrances can be arranged to suit the bees or ourselves, in the sides of the hives, but never in the ends. Use a bridge under the chaff made like this.  and resting on the bottom board for the bees to pass out under. The division board is ¼ inch thick, with a slot in the middle 3 by 6 inches, covered with wire cloth, and one at each end, of the same thickness, perforated with small holes, and chaff outside of these.

Bees ought to be put up for winter about the 1st of Oct., and they will usually cluster on each side of the division board, as if they were one swarm. Then the next spring, when they increase enough to crowd their quarters, take out the chaff and boards at the ends, and fill up with frames. Have half as many new hives ready as you have swarms, and when necessary, remove one swarm from each old hive to the middle of a new one, and give the one that is left all the room in the old hive. This is working them on the "Long Idea" plan, which is the best, I think, both for ease of extracting and surplus, having tried both ways. The chaff can remain at the sides all summer. The advantages of this plan are many. If one queen fails they can be very easily united, and they will winter together where they would not separately. They will increase faster in the spring, as each has the heat of the other. About the 1st of August I put in the division board again, and furnish the queenless part with a laying queen, and double my colonies, as I allow no natural swarming.

The season here has been a good one. I commenced with 9 swarms and increased by artificial swarming to 30, and took 1,162 lbs nice honey; and all but 2 are in double hives, with 5 to 8 combs each, according to their strength. I think there is not much object in chaff bottoms, if the snow is kept swept up around the hives. Also, raise the cover a little, to give ventilation over the chaff. WM. H. S. GROUT.

Poland Center, Chaut. Co., N. Y., Dec. 9th, 1876.

CARRYING BEES INTO THE CELLAR.

MY hands are disabled by rheumatism so that I can not lift a hive of bees, alone, and even with the help of an assistant, carrying bees into and out of the cellar is the most painful and disagreeable work I have to do. Our mode has been to run a stick under the bottom board and each lift the hive with one hand, while we steady it with the other. Once, in carrying a hive thus, it tilted and fell to the ground, smashing the combs so badly we had to brimstone it. I propose to adopt another plan: Take a ⅜ rod of iron 8 feet long, cut in two in the middle, and make two double-pointed hooks. Loop the rods in the middle, sharpen the points and crook them so that they will catch under a stick in the bottom board. Run a handspike through the loops, drop one of the rods each side of the hive, and adjust the hooks into the bottom board; then placing our arms under each end of the handspike, we can carry the hive, suspended between us, down the steep hatch-way steps, much more easily and safely than by the old way.

J. H. P., Franklin, N. Y.

We would suggest that to prevent the irons from sliding about on the handspike, the latter implement be replaced by a piece of wood 2½ or 3 feet long, having handles at each end, like the handles to spades and shovels, and that the eyes to the irons be linked into corresponding eyes in this piece of wood. We shall thus have only one implement, instead of the two irons, and it can be very quickly hooked securely under any hive. The Simplicities, and all hives with movable bottoms, can readily be carried about with it. The chaff hives do not need it, for one can lift them handily by taking hold of the eaves. Besides they never need carrying about, unless it is during swarming time to put an empty hive in its place when the bees are returning.

A "TALK" ABOUT HIVES.

ONCE more I *attack* you for the purpose of benefiting myself by your superabundant knowledge of bee-culture (no flattery intended). [Of course not]. Before many weeks elapse I desire to make up a number of model hives, can you, therefore, give me your opinion on the following points:

Would a hive made with double ends and space filled with chaff, with entrance for bees through one of these ends, be sufficient to protect the swarm from the intense summer sun? [We think it would.] If not, how do you think pole beans or some kind of vegetable of rank growth, would answer in lieu of the grape vine? [Have been used, and do first rate if you do not neglect to train them.] Why could not the necessary number of frames in a Standard hive be turned half way round and made to rest on temporary rods passed through the hive and thus placed, be packed for wintering on every side and on top with chaff cushions? [Has been done; no objection only the trouble.] If this plan would work then I should, of course, give up the idea of a hive with double ends, as before described? Why would not the material used in the construction of the berry baskets, cut the right thickness, make excellent frames and section boxes? The wood is beach, I believe. I will send you a sample by to-day's mail. [Are used, but are more expensive than our sections, when you get starters in, etc.] I am a Dentist and have an excellent dental lathe. Could one of the circular saws you advertise be used in connection with this lathe for light sawing? [Very easily.] I see by most of the cuts of different apiaries which you have printed, that *no shade* is afforded the hives. Is shade, therefore, absolutely essential? [Not absolutely. Parties mentioned cover their hives with boards in very hot weather.]

In conclusion, let me say, that your "Home Talks" in GLEANINGS draw me very near to you, and have, on more than one occasion, caused me to act and choose "the better part, which cannot be taken away." God bless you in the good work. W. G. PHELPS.

Milford, Del., Jan. 14, 1877.

Your last remarks, friend P., have made us feel quite talkative, and in regard to the hive with double ends, we should say, that its greatest objection is that it cannot well be used as an upper story. Avoid it as you may, the hive now coming into demand, is one with two stories, and both alike. This necessitates a shallow frame, and we cannot turn a frame around for winter as you suggest unless the hive is wider than it is long. If you follow out the idea, you will arrive at the Chaff hive, and this, in connection with the Simplicities, for temporary purposes for shipping the honey in, etc., will answer every possible need, and we, at present, need both in every apiary. If it should transpire that it will not pay to winter bees in the latter, they will prove of excellent service for summer use, and shipping both bees and honey in.

FDN. MACHINES, NATURAL AND ARTIFICIAL COMB, AND FEEDING BEES CAPPINGS.

A BEE-KEEPER that I met since coming to La., says all the fdn. he used broke down after being lengthened out and filled with brood; still it may have been made when you were using paraffine. Have you had any trouble with fdn. breaking down after being finished and filled with brood, when the fdn. was made of beeswax? I should think the manufacture of the small fdn. machines by Mr. W., would stop the sale of fdn. to a great extent, as most bee-keepers that have much to buy, will be apt to get a small machine and make it themselves. A good honey season is reason enough for your not being troubled with brood or pollen in fdn. in section boxes.

You speak of Mr. Doolittle's pushing a knife through a piece of natural comb, and say, "of course it found but little obstruction," as if *all* natural comb was tender, which is not the case by any means. The honey made from the Titie, which blooms in Florida from the middle of Feb. to the 1st of March, is first quality, but the comb is very tough—the centre unusually so—and very thick. Last year, at Shreveport, the comb made in the spring was very tough, but that made in June and July was tender. Might not *some* yellow wax make tough fdn., and that made from honey of different plants, be tender? You also mention in another No., of its being something new, to know that bees would use cappings or pieces of comb, to build new comb. Twelve years ago, in Ohio, I had a small swarm come off in July, that I put in a box hive, with a glass at the back, full size of the hive, to observe the bees. To assist this small swarm so late in the season, I placed pieces of comb honey on the bottom board, and watched them through the glass. After taking the honey, they took the comb to pieces and carried it to the top of the hive, where *I saw them use it* to help build their new comb. It was a curiosity to me at the time, but I did not suppose it was anything new to older bee-keepers. C. R. CARLIN.

Bayou Goula, La., Dec., 10, 1876.

The only test of pure wax that we know of, is to hang a sheet of fdn., made from the suspected wax, in the hive, and if it stretches, we condemn it at once. We never had any brood combs break down, but have had paraffine combs do so when filled and sealed over.

The sale of the small machines has certainly spoiled what would probably have been a fine trade for us, but friend C. do you fear we shall lose in the end by studying the wants of our customers? While their wax is right at hand, it would be too bad to ask them to send it half across the U. S., and then back again by express. We are very glad indeed to have you corroborate what was just beginning to dawn on our understanding that bees make natural comb varying greatly in thickness. We believe light thin cappings, might be used to considerable advantage, when one has no fdn.

VENTILATING HONEY BOXES.

ON page 34 Feb. No. you say "We feel pretty well satisfied that one great trouble in getting comb honey, is having too much draught through the hive, or having the surplus receptacles protected by nothing but thin wood." If that is the case how will you reconcile the theory with the practice of that much spoken of bee man, Adam Grimm? When I was at his apiary in August 1873, I noticed the caps of his hives raised on blocks one inch, or more, high, leaving the boxes exposed to view, and as his boxes did not fill the hive on either side by all of ¼ of an inch, the bees could come out all around the tier of boxes, and of course that was anything but being protected from a draught through the hive. When asked the object of it, he said, "I get a great deal more box honey by it." How are you going to *Root* that aside?

On page 39, friendly Gormley says, "How any one can dislike your metal corners is a mystery to me. Let your Sharpville correspondent state his objection." I am not the Sharpville man, but I can talk; mayn't I? I would not use the metal corners if Novice would give them to me. And why? The main reason is they cut my fingers so in handling. I always take a frame by the projecting end bars, and in lifting heavy combs or jerking off bees for extracting or other purposes, the corners are very much in the way, and cut my fingers so it *hurts*. There is no use in making a frame less than ⅜ inches thick and with those you don't need the corners, and save extra expense. It is said the corners make the frame much stronger. My frame is made of stuff ⅞x⅜ nailed together in a mould-board, and I will back it to hang as true or stand as much *banging* as any metal cornered frame. I have tried the metal corners, so it is no guess work.

I must make a few corrections in friend McGaw's article page 77. I began with 11 stocks and increased to 22 and got 312 lbs. of extracted honey. McGaw must be mistaken in saying I told him our locality is over stocked, for I don't think so. There was about 140 stocks went into winter quarters within one mile of this place. McGaw thinks my stocks were not strong enough at the right time. If that is so, I don't know what strong stocks are, for our hives were "chuck full" of bees, as friend Cramer of Juniata, Neb. can testify. We have hundreds of acres of white clover, and last season when it was in full bloom, our bees were very strong and worked hard, but there didn't seem to be any honey in the clover. I have known of but one year in which white clover gave us any surplus, the balance of the time it was only good enough to keep brood rearing going. There must be something in the soil detrimental to it, for friend McGaw gets good crops of it, but he is nearer sand and that may be of benefit. Our main dependence is the fall bloom, which was a total failure last year on account of cool rainy weather. I have got as high as 116 lbs. of extracted honey from one stock here, besides taking from them 18 frames brood and bees, and my average that year was a little over 49 lbs. per stock.

The Western Illinois Bee-keeper's Society, that friend Haines is working up, is to meet at Monmouth, Ill. April 10th. WILL M. KELLOGG.

Oneida, Ill., March 7th, 1877.

We suppose of course that our friend Grimm knew better how to raise comb honey than we do, but nevertheless would suggest that his hives were placed directly in the sun, and thereby became too warm for the bees during the middle of the day. Protecting the hives from the direct heat of the sun by chaff walls, will also protect them from the other extreme during cool nights, will it not? Our experiment of blanketing the honey boxes was in the house apiary, and these boxes were gummed up so that not a bit of air could pass through them, yet the bees never clustered outside, as they do in hives that are in the sun.

Friend K., we have known mechanics who gave as an excuse for working with dull tools, that they would cut their fingers if made sharp. If we are going to have frames proof against propolis, they must rest on knife edges; if our readers prefer to pry the frames loose rather than to learn to grasp them a half inch from the extreme end of the top-bar, of course they will do so. It might be interesting to you, friend K., to see the quantities of corners and frames we ship every season, to your brother bee-keepers.

Take 100 nailed frames and weigh them; then compute the number of square inches of comb space, and afterward tumble them on the floor in a heap. Now do the same with our frames. You will find several pounds more weight to handle with the nailed frames, and if the tumble has not injured them more than the others, you will find they contain several square feet of space less inside, while the outside dimensions are the same.

"RIGHTS" AND WRONGS.

WHO IS TO BLAME?

NOW, my friends, I do hope I may be able to see my own faults in this matter, and that my work may not be one-sided, as I have reason now to think it has been heretofore. I have been much more vehement in denouncing Mitchell, than have any of the other journals; has my course been really a better one than theirs? He has taken money from great numbers of people, and has given them in return, rights that are, without doubt, of no use to them; he has also taken large sums for receipts that he claimed were of great value; he has also received money from others for queens and bees that he never sent them, but does it follow that our erring friend was alone to blame in this matter? All these offences are permitted by law, or at least it is very difficult for the law to get hold of offenders who have no property. The law permits one to take $100 for a right for a single county, or as much more as he can get, and if it should transpire that the purchaser pays for the right to use something that is already free to all, is *he* not very much at fault in making foolish and injudicious purchases? If our friend Mitchell has a receipt for making bee-feed, and if one of our readers agrees to pay $10 for it, the transaction may be a fair one in the eyes of the law so far as we know. When the man finds his money is thrown away, as it invariably is when paid for receipts, so far as my knowledge extends, who is to blame? It seems rather hard to tell people who read little, and who are inclined to think everyone honest that comes along, that they are indirectly to blame as well as the man who told the falsehood, yet I feel that such is the case, and could I take both parties by the hand, I do not know but that it would be my duty to speak as kindly to one as to the other. There is not a community in which there are not people who will get trusted for goods without any idea of ever paying for them. Are they alone at fault, or is it also the fault of the one who incautiously trusts them? Both parties need educating, or rather, perhaps, Christianizing. Is it not the business of the journals to help to do this, and to do it in the kindest manner possible, consistent with showing up at once, all that is wrong and deceptive?

> My patent is on the insertion of the trough in the upper part of the frame; it may be either movable or fixed and extend through a part or the entire length of the frame. I claim for it several advantages. It is always in place, always in order, never leaks feed, drowns bees or attracts robbers. It takes no space except that actually occupied by the trough, the remainder of the frame being filled with comb and serving its office in the hive just as any other frame. I believe you will consider it the best device for feeding that has ever come before the public. I would like to sell you the state of Ohio, I will sell it low.
> W. E. HAMILTON, Plum Hollow. Ia., Jan. 11th, 1877.

The above was sent us in answer to an application for a patent feeder advertised in one of our journals. The feeder consisted of a little wooden trough to be fastened just under the top bar to any frame. The sample was very rough, bad workmanship and cost 60c., although very neat ones can easily be made for 5c. at a profit. The objection to such a feeder, is that we must either uncover the bees to use it, or cut a hole through our quilts or honey boards, something we believe has been voted a bad nuisance. Again we fear our friend who has invested money in patenting the device, was poorly posted in bee-culture, for the same device was used a long time ago, and has been illustrated in our Journals. As he is a minister of the gospel, we feel sure he will not wish to take money for rights," after having the matter pointed out to him. We have here again another illustration of the fact that granting a patent, by no means proves the invention to be new. Very likely it is beyond the power of the Patent Office to determine, and still worse, they seem of late incapable of determining what has *already* been patented.

> Last summer I gave German Bee-sting Cure" a pretty thorough trial on myself and others, but so far as any effect was perceptible it is of no value whatever. The seller refuses to refund the money and the proprietor will not even answer. The Cure is warrented. You may publish the above over my signature. S. W. HALL.
> La Moille, Iowa, Jan. 5th, 1877.

Let us try to think, friend H., that those who sold the "Cure," honestly believed it to possess virtue; as it is now offered for sale no more, we presume they are aware of their error. Many do not feel it a duty to refund money when goods prove unsatisfactory. Let us be charitable, and more careful in future.

A friend has a very pretty honey box that is patented, and he charges $3.00 for a right. This patent comes nearer being worth the money, than any other we know of, but if it be excusable in this case, why not in all the others? The worst we can say of this friend is, that he seems to be in bad company. There is one more trouble: our friend sells individual rights, town and county rights, and also allows manufacturers to sell boxes, and pay him a royalty on all that are sold. This last man sells as many as he can, and soon encroaches on somebody's territory, and we soon have a tangled-up mess of it, in trying to decide whose "rights" are trampled on. The L. hives were, a few years ago, purchased and brought into our country in considerable numbers, with the L. brass trade-mark on them. The man who had paid quite a large sum of money for the county "right," threatened, and was finally told, that he must collect damages from the maker of the hives, because he did not enquire where the purchaser lived, before selling him the goods. We believe all parties soon decided they were quarreling about something that lacked substance and so dropped it peaceably.

Another of our readers has patented a honey box within the past two months. From the sample at hand we should decide it to be an infringment, it is not new, and is so complicated and expensive that he will soon abandon it himself, unless he gets stubborn and headstrong because somebody finds fault with it.

> VINEGAR.—How made in 10 hours from Cider, Wine or Sorghum without using drugs. Name paper and address F. L. SAGE, Springfield, Mass.

The above has appeared in many papers for years past, and we believe, in the *Scientific American* constantly. As many inquiries were made in regard to honey vinegar, we thought best to investigate. The result is that our friend wants $5.00, for his great secret, and the printed circulars he sends, would lead one to think he might get rich out of it in a few days. The story is very ingenious, as they usually are, and one finds himself almost before he is aware of it, wishing he had the money, to send and see what the great secret is, until we consider that $5.00 will buy quite a library on almost any subject. Farthermore, out of all the money we have paid, and have ever seen paid for such receipts, not one has ever proved of any value at all, and the greater part of them, are already given in the proper books, and are well known. We have given friend Sage a free advertisement, and so he should not complain, and if there are those among our readers who *do* think it right to buy and sell receipts, we presume it is our duty to let them do so without arguing the matter.

A few days ago we sent 75c. for a bee-feeder; it was made of tin, and held a pint. They can be made by the quantity for 10c., and it does seem as if they should be retailed at 25c. even if it did cost $60. or more to patent it. If our friends are willing to pay the price, perhaps there is nothing wrong in the transaction after all. The only point with me to decide, is whether I feel right in receiving advertisements, of such a nature. As I really do not, I hope our friends will excuse me for returning their money, when sent for such a purpose.

STARVATION.

I SEND a piece of candy, a sample of what I bought for feeding one stock of bees. They had very little honey of their own, being a new swarm and transferred rather late in the summer from a box to a frame hive—a good strong stock. Wintered in friend Greenman's cellar. I laid the sticks of candy on top of frames, and over them a piece of Brussels carpet which left little air spaces at the sides. They seemed to thrive till a month ago when I placed another large piece of Kidderminster carpet over the other to make it warmer and cover the open spaces. Entrance hole not fully open having a piece of wood before it but not close up. I found the bees all dead the other day. Some candy left on top but not much, one stick down among the combs not touched, not one bee above, some lying near the candy, but the most of them on the bottom, entrance choked up and numbers gone behind the division board. Mice had eaten off the heads and bodies of some. Query. Were they smothered to death? Were they poisoned with the flavoring of the candy? Or were they starved to death? Hive looked clean, and smelt as stocks usually do—bottom looked wet. GEO. GANSBY.

Stayner, Ont., Can., Feb. 26th, 1877.

Very many cases, we believe, are starvation and nothing else, where one who takes a hasty observation, would say they had food when they died. The candy sent us we think all right, and should have no fear of any of the flavoring extracts used in the candies usually sold. Bees in winter, especially those in a good cellar, move about but little, and unless there is honey on all sides, they are very apt to miss it, and become so enfeebled by want of food, as to drop to the bottom helpless, when food is to be found within a few inches. This is more frequently the case where the hive is large and open, or where there is but a small cluster of bees. If bees are to be wintered entirely on candy, it should be given them before very cool weather sets in, that they may liquify a considerable portion of it and store it in the cells; otherwise they are liable to be dependent entirely on the candy at a time when the few that could cluster on it would be unable to lick up enough to supply the rest. We have lost colonies several times under just such circumstances. Had they been between, or rather surrounded on all sides with thick chaff cushions, and then candy enough given them so that the greater part of them could have clustered over it, there would probably have been no trouble. Suppose you have all the combs in the hive full of sealed honey, except a circle of empty cells in the middle large enough for the bees to cluster in, do you not see how differently they are situated from those that have to crawl all over a large cold hive to find little patches of honey that may have been left? Once more; we have no fear at all, of there being too much honey in the hive in the *winter* for the well-being of its occupants. If the bees do not all perish of starvation in the way we have mentioned, they often die in large clusters, sometimes the queen among them, and then we have remaining a weak queenless colony. Who has not in looking over his hives in the spring, found heaps of dead bees at one side of the hive? We yesterday looked over the bees belonging to a friend, and while heaps of dead bees were found at the entrances of the unprotected hives, those in a couple of chaff hives purchased late in the fall, were found full as nice as any in the cellar, and while the combs seemed to contain nearly all the honey given them in the fall, not a dead bee was to be seen, either outside or inside of the hive. He remarked that he had examined them all through the severest weather, and as no frost was seen near the cluster, he verily believed a potato would have remained unfrozen during the whole winter, if placed under the chaff cushion. The chaff hives are certainly heavy, unwieldy things—nearly 100 lbs.—but they are really a labor-saving (and bee saving) institution in other respects.

CHAFF OR STRAW UNDER THE BEES. AND HINGES FOR THE COVERS.

IN looking over GLEANINGS I see nothing in regard to putting anything under the hive. You say use chaff cushions at the sides and top, but nothing under them. Now why not take a straw mat or even loose straw and set the hive on that? I think that would prevent water and ice accumulating under the hive in winter, and one could close the entrance to prevent the escape of bees on cold days, and there would be no danger of smothering them.

While I think of it you don't say how you hinge the lids or covers to your hives so as to be movable at will. I suppose you use small butts. This would be my way so as to be movable without taking the butts off every time one wants to move a lid or cover; take eyelet screws and screw them into cover ½ inch from the lower edge, then take wire of the right size and bend right angle long enough to reach through the hive and clinch, then bend at right angles again so as to go through the eyelets in the cover. In this way they will slip on and off without any trouble. If these thoughts are worthy of note, use them, if not, cast them one side. B. G. WATKINS.

Harmony, N. Y., Feb. 20th, 1877.

There really seems to be an advantage in having chaff under the hive, as well as over it, for the bottom boards of such seem much dryer and nicer, and the hive seems much nearer frost proof.

We have abandoned all kind of hinges in our apiary, and simply have the covers loose. It is true they would be more convenient if hinged on, but the difficulty of having every cover hinged so as to fit every hive is such that we have decided it was too much machinery, and now have all loose.

BOX HIVES, ARE THEY EVER ADVISABLE?

DON'T you think a box hive just as good as one with frames for farmers' use, or for those who never open a hive after the bees are put into it? I think packing hives in chaff for wintering the best thing yet devised. C. AULLS.

Clinton, Mich., Feb. 27th 1877.

Those who have bees in box hives frequently lose them, as well as other folks, and after the bees are dead, what is to be done with them? If the combs are built in frames, even rude, cheap ones, they can be taken out entire, with very much less trouble than where no frames are used. When out, if any honey remains, it can be used with very little trouble and not much of the usual muss and daubing. The same will apply to bees that have been taken up with brimstone. Now we have many times before said that nice combs can be sold to almost any progressive bee-keeper—and we think one may how be found in almost every neighborhood—for at least 25c. each. A fair colony would build 10 such easily in a season. Would not $2.50 pay for the extra expense of frames? It is true that the comb in a box hive might be sold for something, but for how much, think you, compared with the same combs built in L. frames? Suppose you have one box hive containing much more than they need, and another that is starving; your only plan is to go and buy sugar or candy, while if the stores were in frames, you could, in a twinkling, equalize the two. In our opinion, the very best way in the world to feed bees, is to have some heavy combs laid away for such emergencies, and then you can take care that they do not starve, any day in the year. Can this ever be done with box hives? Our opinion of having bees in boxes without frames, under any circumstances, is that it is about equivalent to pouring the grain that you feed your horses and cattle, into the mud, because you, by so doing, save the expense of feed troughs.

DYSENTERY.

CAUSE AND PREVENTION.

MY bees have wintered well. But if they had remained until April, perhaps I would have seen none living. They had a fly Feb. 12th, and all the hives had nearly a beginning of dysentery. The honey is of the worst kind, all fall honey and most of it unsealed. It is like cells of water mingled with white grains; the bees eat the watery honey and leave the white particles. Some of the hives were badly smeared with a tarry black stinking mass. All have brood in from 2 to 4 combs. I am going to set them all in buckwheat chaff. I have yet 300 lbs. of fall honey: I want to sell it for 12c.

J. DUFFELER, Wequiock, Wis., Feb. 11th, 1877.

Although it may be difficult to tell what to do with bees when in the predicament above mentioned, without warm weather to allow them to fly, or preserved combs of nice, sealed honey with which to replace the bad stores, we may suggest a very easy means of preventing such a result in the future. Had the hives been close and warm, like the chaff hives, when this fall honey was gathered, we really believe they would have sealed up the honey, instead of leaving it in this unfinished state. Our experiments with honey boxes, covered and uncovered, have pretty strongly confirmed our opinion in this matter. Again, had they been allowed to keep their combs of sealed honey that they gathered and sealed up in the fore part of the season, we think there would have been no trouble. If it be urged that they would swarm incessantly if this honey were not extracted, we would advise setting such heavy combs away until they are to be prepared for winter. Six well filled L. combs will winter any colony, we do verily believe, and they can with only these 6 combs, be put in close and warm quarters, and with the chaff cushions around and over them, it would be strange indeed to find any traces of dysentery; while the entrances of many of our common hives are soiled, and filthy to look at, those of the chaff hives are as clean and white as they were when first painted. This one fact alone, is enough to pay for the chaff covering, to any one who is annoyed by unsightly spots and daubs on the fronts of their neatly painted hives in the spring time.

FREEZING BEES.

I HAVE seen some enquiry as to how much cold a stock of bees could stand out of doors and live. I experimented with one stand, it was a weak stock, with about two-thirds of a pint of young bees and young queen, in old style Quinby hive, with honey board on, also 6 inch cap on, with inch hole through honey board in front. I left the entrance open so that they could come out whenever they chose, and set the hive by the door of the house so that I could look in often. We have had some cold weather, the thermometer being 20° below zero, and the bees had not a fly for over a month. On the 28th of Jan. it was warm enough for all my bees to have a good fly, and I took a look at my experiment. Found them alive and lively, got a sting from them; they had eaten a good-sized lump of A coffee sugar, and changed from front to rear of hive, to escape draft of cold air I suppose. The next day was also warm, and I again looked in but not a live bee was in the hive. Where were they? My opinion is that they become disgusted with their treatment and left to better their condition. We have had fine weather since the 27th of last month, and there have been but two days that the bees were not out. I have been feeding flour, but I am a little afraid that it is crowding the season somewhat, for our Marches are *some* here, but not *summer*.

Well, friend Root, as you cannot get bee-keepers to agree upon a standard frame and honey box, that will fit any hive, suppose you reverse the thing and make a hive that will fit any frame or honey box, or any number of them. India rubber hives would fit any sized colony; you would not have to go to the trouble of extra upper stories; you could always tell the size of your colony by the way the hive was stretched, and the entrance—well, of course, as the colony increased and got larger, the entrance would stretch to suit, and as the colony dwindled the entrance would draw up to just suit. I think that it would knock your hoop hive into cold, oblivious shade.

ED. WELLINGTON, Riverton, Ia., Feb. 12th, 1877.

We agree with you, that the bees probably left their hive because they were disgusted with such a cold place, and we have known quite a number to desert under quite similar circumstances. Is it not possible that much of the swarming out in the spring is caused by just such poorly made hives, or by having too few bees to make the large open hives comfortable? Perhaps the rubber hive would remedy all the troubles, but a chaff hive and chaff cushion division boards, will answer the same purpose so well, that we think we will have to be satisfied, especially as everybody now seems disposed to adopt the L. frame. We would most emphatically urge beginners to adopt what seems to bid fair now, to be the national frame. You are certainly with the great majority on that, and it has been so well tested, that it cannot be very far out of the way. Two story hives, since the advent of fdn., are certainly the ones that will be used, and deep frames are beginning already to be discarded.

WAXING BARRELS FOR HONEY, ETC.

I MADE enquiry of you some time since, about pine kegs, whether you thought they would answer (your reply was in the affirmative,) if well coated with paraffine. Mr. Jones, Beeton, says it will spoil honey to be put in them. Would you kindly let me know if you have seen, or known of any used successfully? I have had a number made and would rather lose them than spoil a crop of honey. I have had some difficulty in disposing of extracted honey, having to create a market for it in places around me. I have sold all the comb honey I could buy in these parts,—not having any myself—and have market for a large lot yet. Could you inform me of any person in Ontario with a quantity to sell? I could give 17c. cash for it, if in nice boxes, small preferred, within 2 or 300 miles of Toronto, having several parties there to supply. Can you give me the botanical names of golden rod and purple-top fireweed?

Benj. C. Greenman.

Stayner, Can., Dec., 20th, 1876.

It is quite a serious matter indeed to put honey in anything that will injure it, but we are so well pleased with paraffine, that we should not hesitate to put the honey even in pine, if we were careful to coat perfectly every part inside. This operation is much more easily done with paraffine than with wax, for when melted it runs almost as freely as water, and every portion of the barrel can be given several coats before it cools, even if we use but a small quantity. Again, wax sometimes cleaves from the wood, which we believe paraffine never does. We spoiled quite a quantity of honey, or at least made it second quality, by coating the barrels with wax and rosin, and although we have given the warning in our own and other Journals, we see Mr. Shearer still advises the use of rosin in a recent number of the *Magazine*.

Some one can certainly supply you with comb honey another season we think, if they cannot this. Golden rod, is *Solidago*; we do not know of a purple fireweed; we think true fireweed has only a white blossom.

DOOLITTLE'S SYSTEM, HOW FAR WE CAN AFFORD TO FOLLOW HIM, ETC.

YOU tell how Doolittle uses his sections as side storing boxes, but I am still in the dark as to how they go on top of brood, whether they rest on the brood frames or are hung in boxes by those ¼ inch projections. [Those on top, rest on ¼ inch strips laid on the frames at each end]. And I am am also in a quandary as to how you close up the last case of top cases, as each case has a tin separator on one side only. [Close last with a little board]. Again, how do you get those 12⅛ inch cases in a 12 inch hive? [Brood apartment is 12 inches, but the rest of the hive is wider.] Why does Mr. Doolittle prefer two tiers of cases with ¼ inch space between for side boxes instead of making one case to hold four boxes?

W. P. Hogarty, Quindaro, Kan., March 8th, '77.

We asked Mr. D. why he did not use cases to hold more than two sections, and he replied because he could not shake the bees off from a heavy frame, and that he wished to have those at top and sides precisely alike. It will at once be seen, that friend D's. arrangement is both complicated and expensive compared with the plan we have adopted, of having the case for sections precisely of the dimensions of the brood frame, that we may hang them both above and below, on the same rabbets as do the brood combs. With the latter plan, no explanation is needed, for a simple look at the frames and the hive, enables the veriest novice to see what each part is for, while his arrangement would necessitate a lengthy explanation. We would by no means think of shaking or brushing the bees off; such work is altogether too slow and laborious. Take off your cases of sections, or whole upper stories just at dusk, and leave them close to the entrance of the hive, over night, and every bee will be out quietly before morning, unless there is brood in the hive, and we have never as yet found any. If frames of sections are left outside, they may be injured by rain or storms coming up unexpectedly. To avoid this, we would always put them in an empty hive, with a cover on it, leaving openings below of course, for the bees to get out. If it is at a season when the bees are disposed to rob, you will have to get up in the morning as soon as they can fly, or you may have "much troubles." This may seem a task, but we think it far preferable to fussing and waiting to get the bees out of the sections in the usual way. As a hive, or rather a story of sections will weigh on an average 50 lbs., it would be no great task to prepare a ton ready for shipment, in this way—perhaps it may prove even easier than to extract the honey. If you can't get up at daylight when occasion of this kind demands it, you are not fit to become a bee-keeper.

CROWS IN THE CORN-FIELD.

FRIEND NOVICE:—As well might the farmer expect to realize a full crop of corn, when he knows that a large flock of crows infest his field, and are pulling up the corn as fast as it sprouts, as for the bee-keeper to hope for a large crop of surplus from stocks of bees that are overrun with drones.

For years we have been trying to get rid of drones, and to prevent the building of drone comb, but in all our operations, we did not strike the root of the evil. Why do stocks standing side by side in the same apiary, give such different results? We answer: because one of them is eaten up with drones, and the drones consume the honey as fast as the bees can gather it; and the other has less drones and more workers.

Again: Why is it that a stock will store a large surplus the first year it is hived, and the next year do nothing? We answer: because what drone combs were built were mostly stored with honey as fast as built, and but few drones were raised the first year; but the following season after the combs have been emptied by the bees, and before honey comes in rapidly, the queen has full sway, and will fill up a greater proportion of it with drone brood. Hence, this great horde of consumers the second season.

Have you not often noticed some stocks at the commencement of the honey harvest that had got well into the boxes, and most of them were from half to two-thirds filled with comb and honey, but all of a sudden progress in the boxes was stopped? Just take a close look into the boxes and you will see that a large batch of drones has hatched and entered the boxes and are eating up the honey as fast as the bees can collect it, and such stock will never be profitable. I have never known a family to prosper and accumulate, whose members were lazy consumers, neither will a family of bees.

In looking over some of our old memoranda we find the following: In the spring of 1857 we built a small pavilion, just large enough to accomodate two glass hives both alike in shape and size June 25th and 26th we hived two large swarms in them and now mark the difference; No. 1 filled its hive and gave 30 lbs. of surplus and sent out a swarm the 6th of August. No. 2 gave 12 lbs., but no swarm. In 1858 No. 1 gave 100 lbs. of surplus but cast no swarm. No. 2 cast a swarm but had to feed to winter. In the spring of 1859 No. 2 was found to be queenless and in removing the combs we found 2¼ out of 8 to be drones but No. 1 did not have more than 6 inches drone comb. Some may say *this* is not proof, well we can give you plenty more. For two years past we have given this matter our strict attention and the result has been very satisfactory to us as it has put some extra dollars in our pocket. In 1875 we tried a number of experiments to see just how far we could go. In 1876 we still made larger experiments and we are now satisfied that we don't want any drones in our honey stock. In another letter will give our plan. J. BUTLER.

Jackson, Mich., March 13th, 1877.

You are giving us a heavy argument in favor of using fdn. for the brood apartment, friend B. and we think none of our readers will be much inclined to disagree with you, but do you think you have any cheaper plan than the foundation?

GLEANINGS IN BEE CULTURE.

Published Monthly,

A. I. ROOT.
EDITOR AND PROPRIETOR.

MEDINA, OHIO.

Terms: $1.00 Per Annum.
[*Including Postage.*]
For Club Rates see Last Page.

MEDINA, APR. 1, 1877.

Blessed *are* the pure in heart: for they shall see God.—Mat. 5: 8.

◆

IF YOU find a colony queenless during this month give them a comb containing brood, and then give them another containing eggs only, about twice a week, until they have secured a laying queen. This refers to those containing plenty of bees; otherwise, unite them.

◆

FRIEND Doolittle has sent us 47 subscribers, and friend Nellis has sent us 34. Others have sent us large clubs, but none equal to those mentioned. I know of no better way of manifesting my thanks to you all, than by giving you a better number now and then, than you perhaps expected.

◆

WE FEEL pretty well satisfied that nothing is gained by having brood reared to any great extent too early. Wait until settled warm weather, and then push them along. If by feeding you produce unseasonable activity, more bees will be lost than are reared in the hive, and your time and money will be wasted.

◆

THE chaff hives have wintered finely, but so have the naked Simplicities, many of them. Those that had an abundance of stores clear around the cluster, and were in old black tough combs, have wintered—up to this date, March 16th—as nicely as one could wish out on their summer stands. They had nothing over them but a loosely fitting quilt.

COULD you read the letters that we do, we think none of you would be in danger of wasting your money by buying rights for anything about a bee hive. Just now we are asked if one has to pay for a right to use the tin separators. They are described in the first volume of the *A. B. J.*, (1861) and so *can not* be monopolized by anyone. no matter what *patents* may have been granted.

◆

LAST month we took especial pains to give the dimensions of the Simplicity hive, and in fact we took the trouble to have it put in italics, that all might understand without more questions. Can you imagine our consternation at finding the compositor had made it read *fourteen* instead of *sixteen* inches in width? How we came to miss seeing the blunder in reading the proof, is more than we can tell, but facts are stubborn things, and so we shall have to correct it the best we can. We have added the iron guage frames to our price list, and their dimensions, that we may escape more such blunders. The hives are outside 20¼x16 inches.

◆

QUILTS; CARPETING A SUBSTITUTE.

A WORD on quilts: I got a lot made according to the sample I got of you—cotton batting, etc. I made others by cutting an old woolen carpet into pieces, and the result was this: When it came cold weather, all that had cotton quilts were cold, damp and frosty; all that had woolen carpet quilts, were dry, lively and warm. So I cut up carpet enough for all. I think cotton quilts are a failure. HENRY DANIELS.

Plainfield, Sullivan Co., N. H., Mar. 7th, 1877.

It is rather rash to decide to call a thing a failure, after so short an experience, yet it is very likely that the woolen carpet has a quality of keeping the bees warm and dry, that the batting quilts have not, although we have used the latter with very good success for the past 10 years. We observed that friend Rice used new rag carpeting in his house apiary, and he said he liked it better than the quilts. In our experience with different kinds of woolen cloth for the purpose, the bees gnawed them badly, and very soon had holes through which they would crawl, in a way that was very aggravating; at least, it proved so in the house apiary. We fear, friend D., that you may change your opinion, after you have the carpet eaten full of holes, yet it may be they will not bite it as badly as they do the woolen cloth itself. If we recollect aright, the rag carpet was not as badly covered with propolis, as our cotton quilts, and our sheets of duck. Rag carpeting is worth about 50c. per yard, and at this price it might be cut up and hemmed, cheaper than to make quilts. Carpeting really seems to keep its place better than does either the duck or the quilts, and it may be the bees will not molest it as badly as they do new woolen cloth; who will tell us? We have tried a great variety of substances, and many of them seemed to answer very well, except that when they were stripped from the frames, little bits would tear off and stick, making a disagreeable and untidy appearance, and endangering the neatness of our extracted honey. This latter is the greatest objection to all kinds of felting. New carpeting, all woolen, is rather expensive, even were there no other objections. For keeping the bees warm, we prefer the chaff cushions, and to keep them clean, we keep the bees away from them by the sheets of duck. The latter we have never known the bees to bite through, and it is the only thing we have ever tried that will answer. The material is similar to that used for grain bags.

BEES AND HONEY.

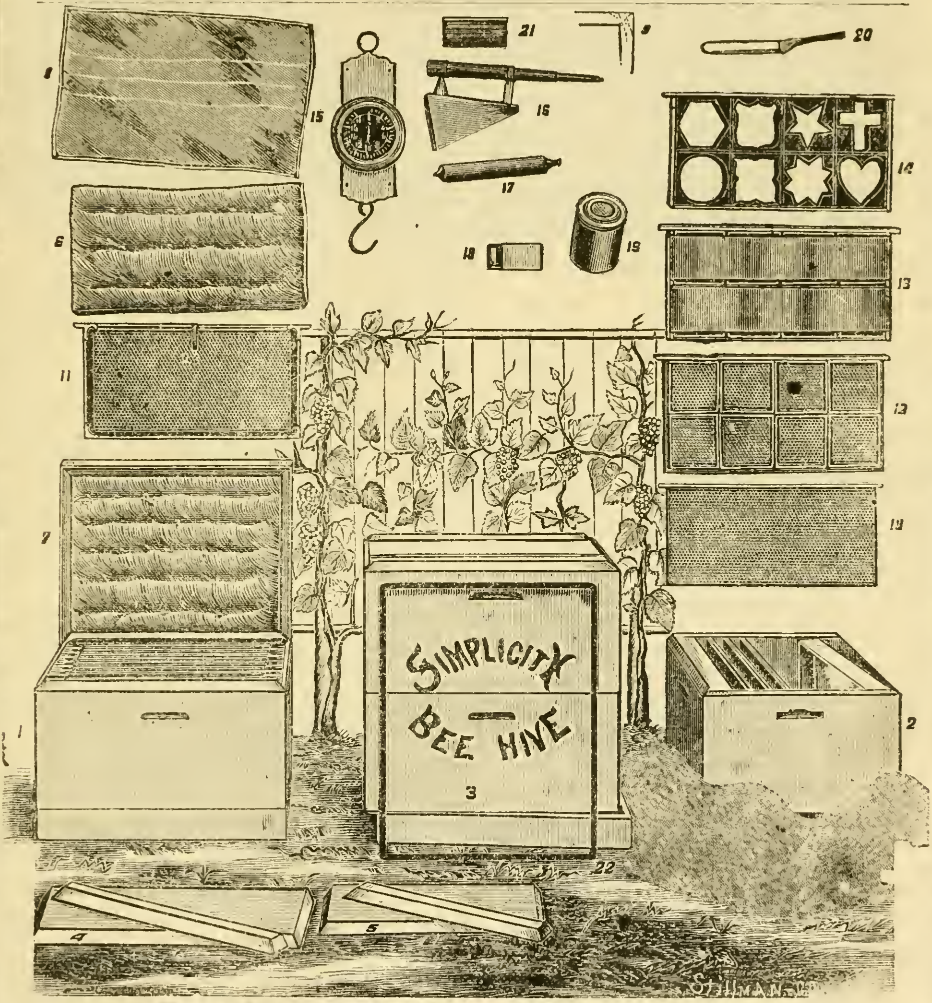
Our 10th Edition

Illustrated Circular & Price List,

OF

Implements for Bee Culture with Directions for their Use.

A. I. ROOT, MEDINA, O., APRIL 1st, 1877.



Implements for The Apiary.

No 1, shows a Simplicity Hive, single story, with the sheet of Duck removed, so as to show the 10 frames in place. The Chaff Cushion is shown in the cover, where it is fastened by 8 or 10 tacks around the edge. You will observe that when the Cushion is thus fastened in the cover, we are obliged to have the sheet of Duck shown at No. 8, fitted closely over the frames that the bees may not get to the Cushion, or it would be stuck so tightly to the frames that we could never get the hive open. This Hive is shown with the entrance closed, by pushing it back squarely on the bottom board, while Nos. 2 and 3 are pushed forward so as to give a $\frac{3}{8}$ inch passage for the bees. No.

2 shows the way in which we contract the entrance with sawdust, only the sawdust needs stamping down a little more. No. 3 is a 2-story hive, being simply two bodies one over the other, with the cover removed; the covers and bottom boards being one and the same thing. In the foreground are seen the four simple pieces of which the hive is composed. The two large ones, are of course the side and end of a hive, and the strips lying on them are the pieces that are nailed under the cover, as will be readily understood by looking at the diagram on page 9. The iron frame leaning against No. 3 is the gauge to be slipped over the hives while they are being nailed. It is, inside, 20¼ by 16 inches, and is slipped over the hive both top and bottom, like a hoop; this holds them square and true, and shows when the stuff is just right. If they just fill the hoops, you can be sure that any hive you have will just fit any other, and that it will be exactly right for every frame in the apiary, if they are also made on a gauge, as they certainly should be; or at least the stuff should be cut to fit a gauge.

No 12 is a frame containing 8 section boxes filled with fdn., and No. 13 is the same with the tin separators added At No. 2 we see one of these frames of sections at each outside of the hive; this is the way in which we arrange a single story for comb honey, leaving the brood in the middle. At No. 3 the whole upper story is supposed to be filled with these frames of sections. No. 11 is a metal-cornered frame filled with fdn., and a transferring clasp, No. 23, is shown pushed down on the top bar, as they are used. At No. 10 we see a sheet of fdn., with a thin metal tube slipped over the top; this holds the fdn. more securely than even melted wax, and it can be slipped into the frame just as the comb guide is put in. At present, this plan of fastening the sheets in the frame is somewhat more expensive than melted wax. The latter is a cheap and quick way, but the frames will not bear much handling after it is put in. We will describe how to do it, as follows:

HOW TO FASTEN SHEETS OF FDN. IN THE BROOD FRAMES.

Set a common small lamp in a tall box with one open side, having coarse wire cloth nailed over the top. Place on the wire cloth a cup containing wax. Keep the wax just melted, by turning the lamp wick up or down. Now, with a pencil brush you can put the melted wax neatly just where you want it. Fit a board so that it will slip into your frame just half way, and lay your sheet of fdn. on this, with its upper edge close against the top bar; brush the wax along the joint, slip out the board and hang the frame in a hive. After a little practice you will do them quite rapidly, and think it is just fun. It is said that the fdn., to prevent sagging, should go in the frame in such a way that the walls of the cells run up and down, instead of diagonally. Our sheets are all made for the L. frames in that way.

At No. 14 we have a frame of fancy sections. The fdn. is put in these by pushing them apart, and catching it between the two ⅞ boards of which they are made. No. 16 is the Quinby smoker, and No. 17 is the Doolittle smoker. No. 18 is a queen cage. No. 19 is a quart feeder. We should have added, in the proper place, that the artist has put quite a number of wires on the grape-vine trellis, while but 3 are really needed. The grape vines are also heavy with foliage toward the top of the posts, during the hottest weather.

OUR PRICE LIST FOR 1877.

It is the 1st of April, and we are so full of all kinds of business that we really have no time for any preface. Bee keepers who are ready and willing to work for their honey, we believe are all busy, and are all so far as we know, realizing as fair a reward for the time and capital invested, as in other kinds of business. A few of the most keen and enterprising, are, as in all kinds of business, far outstripping the rest, and it rests with you alone, my friend, to determine what place in the ranks you will occupy. Just one piece of advice: However attractive the wares may seem that we are about to describe, we would say, don't get in debt for them; if you haven't the money to purchase, don't buy until you get it. Be humble and satisfied with little, and let your apiary grow of itself, and be self-sustaining. I say this because I *really* do not wish you to be disappointed. If you study the subject and become thoroughly familiar with the bees by actual work among them, both capital and bees will come as fast as you can handle either. I want to see you all prosper, and to do so, you must be cheerful, courageous and independent; above all, don't get crazy and extravagant if you should happen to get $25 or $50, as the proceeds of one colony in a season; prosperity is sometimes harder to bear than adversity.

IMPLEMENTS FOR THE APIARY.

The very first thing to be considered in talking about implements, is the frame to be used; and I really feel safe now, in saying the Langstroth. If you have a dozen or more hives in use, that contain frames all alike, perhaps you had better keep on with them; if you are a new beginner, or have several kinds of hives all unlike and wish to come down to one kind, I would advise L. frame by all means. If you want both comb and liquid honey, the two-story is perhaps as good as any. If you want exclusively comb honey, *perhaps* the Quinby hive will do as well as any, but in our own apiary it takes so much more time to take out and replace the frames, that they are entirely out of the question. As others who use these hives largely, do not agree with us, perhaps those who are not satisfied had better try a Quinby hive with the closed-end frames. As the frames are so much larger than the others, fewer are required to make a hive, and this, in a measure, compensates for the loss of time in handling; besides, a Quinby hive can be made cheaper than any other.

WE would remark that we have carefully thrown out or remodeled everything in our list found in any way defective, and we offer nothing that we do not approve of and use in our own apiary.

We can ship promptly, by Freight, Express or Mail, (none mailable except those designated,) goods mentioned in the list in every number of GLEANINGS. Hives, Extractors, etc., can be sent much cheaper by Freight, but in this case they should be ordered three or four weeks before needed, if the distance is considerable. During the months of April, May and June, orders may sometimes be delayed several days, but our customers may rely upon receiving notice at once on receipt of all remittances.

At the prices given in this list, cash *must accompany every order;* as the sending of goods C. O. D., entails an additional expense, and goods sometimes fail to be taken, we really dislike to send them thus, but if you are content to pay from 25 cents to $1 to the express company to bring us the money, (which could be sent by P. O. Order for 10 cents,) we will send them C. O. D. when $1 is advanced. When hives or frames are ordered in quantities, the additional expense of boxing is such that we can make no better rates on large orders. Orders for frames or hives of dimensions differing from those named, will also be liable to some additional delay, especially during the "honey months."

PREPAYING EXPRESS AND FREIGHT CHARGES.

Express charges are so variable that it seems difficult to establish a uniform and satisfactory rate; yet if you choose to leave the matter to us, we can prepay charges at about the rates given in the following table. If you can make a better arrangement with your agent, do so by all means; if not, send the money to us and we will prepay express when goods are shipped. If your express office is not on a main line, from 25 to 50 cents more must be added. This is rather indefinite, we are aware, but it is the best we can do. If goods are not wanted at once, they can be sent by freight at one-half, or still less rates; but it is very unwise to wait until they are wanted and then order by freight. As an illustration, we have taken a cover, a whole hive and an extractor; they weigh respectively, about 5, 15 and 25 pounds.

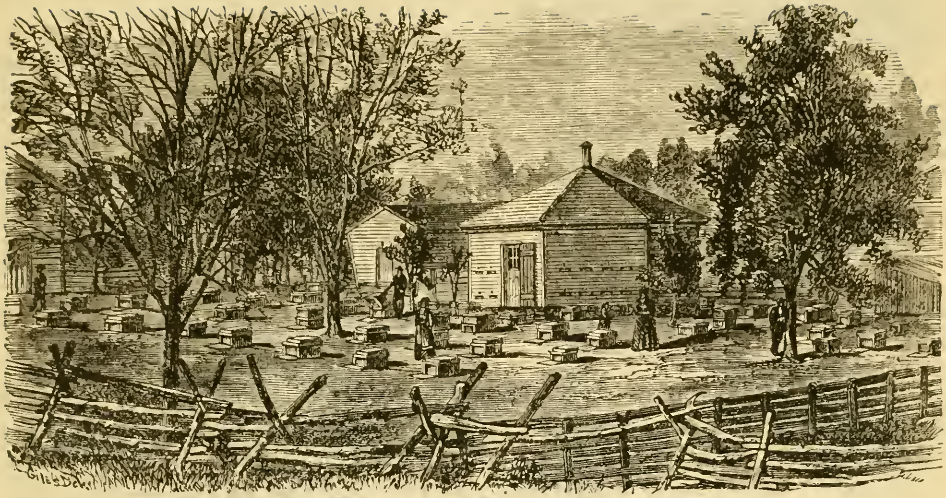
RATE AT WHICH WE CAN PREPAY EXPRESS CHARGES.

	Cover.	*Hive.*	*Extractor.*
New York..........................	$ .50	$ .90	$1.40
Chicago..........................	.25	.60	1.00
San Francisco..................	3.00	4.00	6.25
New Orleans....................	1.75	2.75	3.25
Galveston	2.00	3.00	3.50

We always consider it an especial favor to have customers inform us by postal card whether goods are satisfactory; whether our mode of packing is efficient; time taken in transit; whether Express or Freight charges were reasonable, etc., etc.

Respectfully. A. I. ROOT, Medina, O.

THE QUINBY Smoker, as it is now made, is decidedly a neat implement. Strong, neat and light, and above all, made so it can be readily taken apart, it is sure to prove a pleasant surprise to every purchaser. Price $1.60, postpaid; or $1.50 by express.



Friend Rice's House Apiary.

Supplement to April No. 1877; and Tenth Edition Circular and Price List.

Descriptive Price List of Implements for Bee Culture, with Directions for Using.

Manufactured by A. I. ROOT, Medina, O. Established 1870.

THE A B C OF BEE CULTURE.

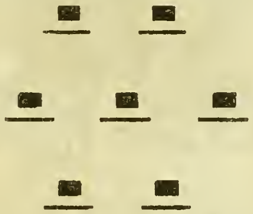
DO you ask why I commence thus? It is because there are many more asking to be taught the very first principles, than anything else, and if I ever write a "bee book," it will be especially for this very class, who when they look into bee culture for the first time, seem never wearied in asking for more and more knowledge.

It is a very good thing to ask questions my friends, but with bees, you should bear in mind that the greatest and best teacher of all, is nature herself; and those who persistently question her, are sure of a reward such as no mortal can give. Do you ask how? Get a hive of bees and study the little fellows themselves; they certainly will not object, if you make their acquaintance with the same respect that you would give any human being of whom you wished a favor.

I would advise you to get the bees about as soon as you get your A B C book, for you really need one about as much as the other. If your means are limited, get a colony in an old box hive, for these can usually be purchased the cheapest. If you can buy one in a Langstroth hive, perhaps you can afford to pay a couple of dollars more, but if you are just commencing, I would advise you to transfer them from anything else, even if it is ever so well made and covered by ever so many patents You had better not pay over $5. for a colony of common bees, for we can send you a colony of hybrids in a one story Simplicity hive for only $ 7., and you can very likely get them for about that price of any of our advertisers near you. This will save all labor of transferring, and you will get much better combs than those usually found in a box hive. If your hive was purchased near home, you can move it by simply tying or tacking a cloth over the lower end, that the bees may have plenty of air; if it has a stationary bottom, cover the entrance with wire cloth, and if the weather is by any means warm, some holes should also be provided in or near the top, covered in a similar way. One of our first purchases was smothered by giving them no ventilation while moving, except a small entrance, and although they were carried but a small distance, they got so hot as to melt down all the combs leaving me nothing but strained honey and dead bees, for my $10. Our experience indicates that there is very little danger of giving too much ventilation while moving, but that there is much danger of giving too little. We prepare the Simplicity hives, by tacking wire cloth over the entire top; when thus prepared, we have never known them to crawl out of the hive in all directions into the dirt as they often do when partially smothered. We will suppose you have your first colony safely home, and are ready to commence taking the first step right. In other words, you are going to start your apiary.

THE APIARY.

In the picture at the head of this page, we have given you an idea of one of the pleasantest we have ever visited, yet our friend has we think missed it, in placing his hives too far apart, for we find 6 feet from centre to centre, of the hives, to answer every purpose, and the labor is very much lessened. You who have worked at extracting, know what an easy task it seems, to take the honey from the hives close to the door of the honey house. Well, with the Hexagonal apiary shown by diagram on the last page of this circular, you can have 56 colonies, so arranged that the farthest shall be no more than 20 feet from the door. ☞ Now if you should not have more than 7 hives, it will pay you to have them thus arranged, and we have given you a diagram of that number to let you see the appearance they will present.



HEXAGONAL APIARY OF SEVEN HIVES.

On the tenth page, the same idea is carried out to 56, with a honey-house in the center. Just imagine the contrast in the appearance of that number of hives set down carelessly, and arranged as we have indicated; if a friend should ask to see your apiary, think of how you would feel in showing it to him. If you had a fine horse of your own raising, nicely groomed, you would feel a thrill of pleasure, in having him patted and complimented, and we wish you to feel the same way of your bees, whether you have one hive, or 100. If you fix the first one in neat nice trim, you will be very apt to do the same with the rest.

HOW TO DO EVERYTHING THAT NEEDS TO BE DONE WITH A COLONY OF BEES.

WITH THE HOPE THAT IT MAY ANSWER A GREAT NUMBER OF QUESTIONS.

WE WILL suppose it is the first of April, and that you have purchased a colony of common bees, either in a box hive or in any patent hive—it amounts to the same thing. After transferring, you are ready for work.

DIVISION BOARDS.

During this month, a very fair colony will not need more than 6 combs; and they are much better off when confined to these 6, than when spread over a greater number. The purpose of the division board, is to contract the hive until the bees fill it, even should it be only 2 combs, and to make them fully cover these before they have more. When they have all the cells occupied with brood, honey or pollen, they should have another comb, and be made to fill that. When the division board is used for this purpose, the bees are allowed to get back of it during pleasant weather, and in fact, it makes an excellent place for feed when it is not too cold. If combs containing some honey be left back of this division board, they will soon carry it over, and it seems to have much the effect in stimulating that natural stores do. The small channel along the rabbet usually affords them a passage way, or the division board may be raised about ½ inch.

BUILDING THEM UP.

Whenever you find they have every cell occupied with brood, pollen or honey, and all the combs covered with bees, move back the division board and put an empty worker comb in the center of the brood; should they be short of honey, it will be better to give them a comb containing some sealed honey, uncapping it at the time. Be very sure you do not spread them too fast, during the cool spring months; and also be sure they do not suffer for want of room later in the season. When the hive is full of bees, or when honey begins to come in plentifully, you are ready to consider

SURPLUS HONEY.

Quinby says, with much truth, that it is of great importance that the boxes be put on just at the right time; and the only way to know when, is to keep a careful watch of their proceedings. When they begin to build little bits of comb at the tops and ends of the frames, it is pretty certain they will make a start in boxes, provided they have easy access to them, from near the center of the brood nest. The sections we offer are made so that a frame containing 8 may be put in the lower story at one side, during fruit blossoms. A very little piece of comb will many times make a great difference; and if you can cut out a piece of new white drone comb from some of your frames, and put good large pieces of these in a few of the central sections, you can make a very sure thing of box honey, when they are getting any honey at all.

TO MAKE THE BEES OF ANY HIVE WORK IN THE SECTIONS.

Get them started in one hive in your apiary, as directed above, then take from this a frame of sections, bees and all, well at work, and set it in the hive where they are either "stubborn" or "lazy," and it will get any colony to work we have ever seen. If honey is coming in there will be no danger of quarreling. The frame of sections should contain some honey.

This is some trouble, but it is only by faithful, hard work, that we can attain success in bee-keeping. If your colony is not large, it is a very good plan to make them get well started first in the sections in the lower story—a frame of 8 at each outside—and then to raise them up when the upper story is put on; for if the weather should be cool, you may give them a serious check by opening the whole top of the hive into the sections too soon. When they have commenced work in all the boxes, give them room as fast as they will use it; and if you have bees enough to work in 3 stories at once, give them a chance by all means, as you may thus prevent swarming; and if that is not enough, give them *still* more. Be sure you do *your* part.

TAKING OFF SURPLUS BOXES, AND GETTING THE BEES OUT.

You can take out the frames and shake and brush the bees off, or you can push the sections, one by one, out of the large frames which are filled, and shake the bees off; but if you have little time to spare, we think by far the better way is to set the filled boxes in front of the hive, close to the entrance, and let them remain over night. In the morning every bee will have found its way back into the hive. A whole upper story may be taken off in the same way, and as soon as the bees are out, it is all ready to take to market. If any of the frames contain unfinished sections, and more honey is coming in, these unfinished ones should be put into the new upper story, to keep the bees steadily at work. As there is always a liability of rain storms during the night, the sections should be covered, if they are not in an upper story, and if taken off at a time when the bees are disposed to rob, you will have to be up at daylight to take care of them, or you may have "lively times." A single story Simplicity hive will set nicely in the upper part of a lawn or chaff hive, and this makes a very convenient way of handling the surplus comb honey, as it can be all removed at one "lift." These single stories make a very strong and neat shipping case, and they can be piled up as high as you please, fitting on each other so securely, that even dust and insects are excluded; and there being no projections, they pack together closely, and at the same time can be easily lifted by the slots for the fingers.

If you are going to use the extractor, you need no further directions than those given with our price list of extractors, unless it be to avoid robbing your bees. After you have had a few starve in consequence, you will know all about it, better than from anything we could tell you. When honey is coming in rapidly, *be sure* you keep it out of their way. You can do your extracting with only a one-story hive if you choose, but we think you will get less than if a two-story hive be used, and your honey will be of an inferior quality. With the latter we would endeavor to have them keep all, or nearly all the brood below, and store their surplus above, making them build thick combs above, by using 9 or 10 in the space that holds 11 ordinarily. If they start a lot of brood above, swap it for some combs below that contains none. If the upper story is left on until late, they are very apt to move "up stairs," queen and all. A beginner can get a good yield of extracted honey, where he would not get a pound in the boxes, and at present, we regard it as the easier of the two ways.

QUEEN REARING AND ARTIFICIAL SWARMING.

Do not commence any such work before your hives are all full of bees, and are getting honey, and we really feel like advising you not to do it then. It will be much the more profitable way for you to build them all up strong, and then, if they *will* "pitch right in" and gather honey, let them do it by all means: and don't ruin both yourself and bees by untimely "tinkering," even if the books *do* say it can be done without injury. If you find a colony that is determined to swarm, it may do to divide them. During the honey season we want all hands at work; after it is passed and our hives are full of bees with nothing particular to do, we can set them to rearing queens. One "rousing big" colony will then furnish bees enough for a dozen nuclei, if you really *must* fuss with little swarms of bees; but if you will be guided by us, you will, if possible, have only strong stocks, and you can always *make* it possible in warm weather. In the spring we are obliged to use division boards, and to nurse up weak stocks, but if we always had strong ones in the fall, there might be less of this.

Doolittle says, in regard to comb honey, "If a colony swarms, it does well; if it don't swarm, it does better." The best way we know of to get along with the swarm, is to shake it in front of the hive it came from, after it (the hive) has been carried to a new location. This will satisfy them, and they will work in boxes or for the extractor prodigiously. Even if your object is increase of stock, we would advise keeping them in their old hives as long as you can during the honey season; but instead of the extractor or boxes, put on an upper story, and secure as many combs full or partly full of honey as you can. When the yield begins to slacken, make your colonies, and give them a house well furnished to start with.

HOW TO GET GOOD QUEEN CELLS.

These should be on hand from June until Oct., and to secure them, you are to put once in ten days or oftener, a clean worker comb in the midst of the colony containing your imported or best queen. When it contains larvæ just large enough to be visible, place it in a queenless colony, and in 15 days from the time the first eggs were laid in this comb—look sharp—you are to cut out the queen cells, or place the whole comb in the lamp nursery—see Lamp nursery. If the former plan, insert the cells in combs of hatching bees, (from other hives) one in each, and these are ready to be put into queenless colonies or nuclei. If you wish to be sure the bees will not tear them down, cut them out 2 days earlier, and leave them, combs of brood and all, in the hive in which the cells were built, until the 15th day, as mentioned; you can then quietly carry the comb, bees, queen cell and all, where you wish it.

ARTIFICIAL SWARMING

is simply collecting combs covered with bees and brood, one each from several hives, and putting them in a new hive, with one of our combs containing a queen cell. If we get the bees from several hives, they seem to be so bewildered that they all join peaceably, and we have no fighting at all. After the queen is hatched and has commenced laying, your colony is made.

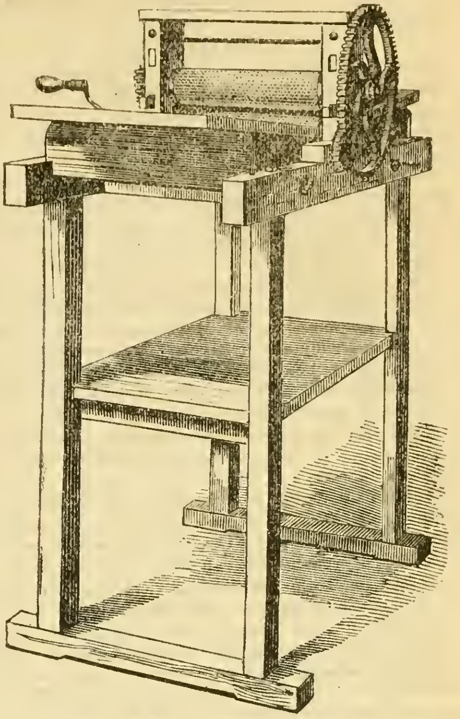
ROBBING

Will rarely trouble you unless you carelessly leave honey scattered about the apiary, or fuss with weak stocks or nuclei that are unable to protect themselves. If you find a colony being robbed, stop up the entrance as quickly as possible, and if everything else about the apiary in the shape of sweets is secure, they will soon forget about it and stop. Just before dark *let* the robbers go home, and if your colony does not take care of itself next day, either break it up or give it bees from some other. It may at times be best to close the hive for several days until some of the young bees are old enough to stand guard. As a general rule, robbers, moth worms, and almost all other troubles, are the result of trying to nurse up weak colonies. For all these evils a pint of Italians are worth more than two quarts of common bees.

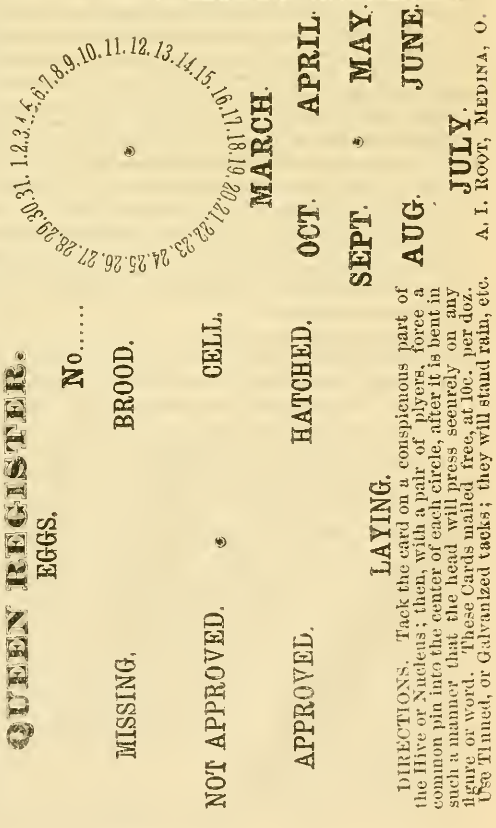
Speaking of shutting the hive reminds us of

ENTRANCES.

If your colonies are strong, you are not likely to need to close the entrance once in five years, and why should we encumber each hive with some complicated rigging that we are very likely to never use? The entrance to the Simplicity hive is made by pushing the hive forward on the bottom board, as seen in cut on first page. If the entrance does not exceed ⅜ there will be no danger of mice getting in. If it *is* necessary to close a hive, we can do it quickly with a piece of newspaper, and if we wish it very secure, we can bank the sawdust up over it.



COMB-FOUNDATION MACHINE.
FOR 12 INCH SHEETS.



QUEEN REGISTER.
No.....

EGGS. BROOD. CELL. HATCHED. LAYING.

MISSING. NOT APPROVED. APPROVED.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31.

MARCH. APRIL. MAY. JUNE. JULY. AUG. SEPT. OCT.

DIRECTIONS. Tack the card on a conspicuous part of the Hive or Nucleus; then, with a pair of plyers, force a common pin into the center of each circle, after it is bent in such a manner that the head will press securely on any figure or word. These Cards mailed free, at 10c. per doz. Use Tinned, or Galvanized tacks; they will stand rain, etc.

A. I. ROOT, MEDINA, O.

TRANSFERRING.

We firmly believe *every one* of our readers can do their own transferring, and do it nicely, if they will only make up their minds that they *will* succeed. If you are awkward and inexperienced, it will take you longer, that is all.

We have said so often, that the best time was during the period of fruit blossoms, that it seems almost needless to repeat it. Be sure that you have cleared away all rubbish, from about your box hive or gum, for a space of at least 6 feet all around. We should decidedly prefer to have the hive stand directly on the ground with all rough and uneven places filled up with sawdust nicely stamped down. Make it so clean and tidy that you can find a needle if you should drop it, and be sure you leave no cracks or crevices in which the queen or bees may hide or crawl. Make all these arrangements several days beforehand if possible, so that the bees may be well acquainted with all the surroundings and be full at work; remember we wish to choose a time when as many bees as possible are out at work, for they will then be nicely out of the way. About 10 o'clock A. M. will probably be the best time if it is a warm, still day. Get all your appliances in readiness, everything you can think of that you may need, and some other things too, perhaps. You will want a fine-toothed saw, a hammer, a chisel to cut nails in the old hive, tacks, and thin strips of pine, unless you have the transferring clasps, a large board to lay the combs upon, (the cover to a Langstroth hive does "tip top,") an old table cloth or sheet folded up to lay under the combs to prevent bumping the heads of the unhatched brood too severely, a honey knife or a couple of them, if you have none get a couple of long thin-bladed bread or butcher knives, and lastly a basin of water and a towel to keep everything washed up clean. Now, as we have said before, this is really, a great part of it, women's work, and if you cannot persuade your wife or sister, or some good friend among the sex to help, you are not fit to be a bee-keeper. In saying this we take it for granted, that women, the world over, are ready and willing to assist in any useful work, if they are treated as fellow beings and equals. The operation of transferring will afford you an excellent opportunity to show your assistant many of the wonders of the beehive, and in the *role* of teacher, you may discover that you are stimulating yourself to a degree of skill that you would not be likely to attain otherwise.

A Quinby smoker will be very handy, but if you have not one, make a smoke of some bits of rotten wood in a pan; blow a little smoke in at the entrance of the hive, but do not get the sawdust on fire. Tip the old hive over backward, and blow in a little more smoke to drive the bees down among the combs, let it stand there, and place the new hive so that the entrance is exactly in the place of the old one; put a large newspaper in front of the entrance on the ground, and let one edge lie under the entrance to the new hive. The returning bees, laden with pollen and honey, are now alighting and going into the hive and out again in dismay at finding it empty. We now want to get one comb in for them, to let them know that it is their old home. Move the old hive back a little farther so you can get all around it, and give them a little more smoke whenever they seem disposed to be obstreperous; and now comes the trial of skill and ingenuity. The problem is, to get those crooked irregular combs out of that old hive, and then to fix them neatly in the movable frames.

Your own good sense will have to dictate much in this matter. Saw off the cross sticks, if such there be, and with your thin knife cut the combs loose from one side; cut off the nails and pry off this side, but don't get the honey to running if you can help it. We have as yet said nothing about bee veils, and notwithstanding we keep them to sell, we really do not think you need one, *unless* you are so careless as to get the honey running and start robbers. When the side is off, you can probably get one comb out. Lay it on the folded tablecloth, take out the comb guide, lay the frame on it, and let your feminine friend cut it so as to require that the frame be sprung slightly to go over it. With the clasps she can fasten the combs in as fast as you can cut them out; if sticks and tacks, strings or rubbers be used it will take some longer. When the frame is to be lifted into a horizontal position, the board, cloth and all is to be raised with it. With the wash basin and towel, keep the honey neatly wiped up. If robbers begin to annoy, keep a cloth over the two hives. Put the brood as nearly together as you can conveniently, or some of it may get chilled. When you get near the central combs, you will probably lift out large clusters of bees with the comb; these are to be shaken and brushed off on the newspaper; if they do not seem disposed to crawl into the hive take hold of the edge of the paper and shake them up toward the entrance; they will soon go in. A paper is better than a cloth, for they cannot stick fast to it. Save out the drone comb, and fix it all in a frame or frames by itself. It will do well for surplus honey, but we don't want it in the brood chamber. Utensils and bits of comb that have much honey daubed on them may be put in the upper story for the bees to clean up, but if the weather is cool, keep the quilt down over them closely for a day or two. We would look them over carefully every day or two, and as fast as they get the combs fastened, remove the clasps, or other fastenings and bend the combs into place as we mentioned last month.

Each operation is very simple and easy in itself, if you go about it at the proper time and in the right way. Bear in mind that the bees, from first to last, are to be kept constantly in subjection, by use of the smoke, and that you must never let them get the faintest idea that, by any possibility, can *they* become master. Send them back among the combs as often as they poke their heads out, until they are perfectly subdued, and hang in quiet clusters, like bees at swarming time.

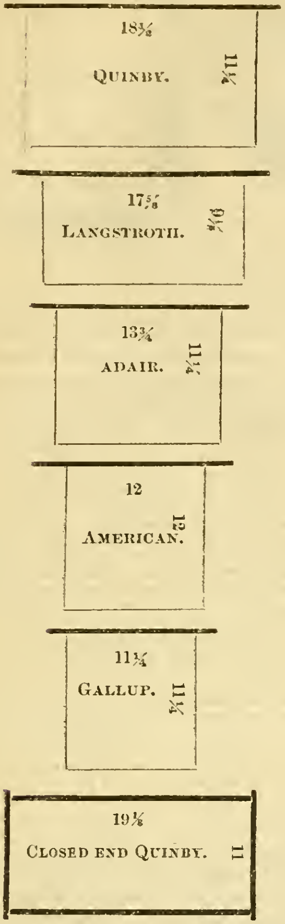
Extractors.

One important point is that all machines to work to the best advantage, should be so made that the frame may hang in them just as it hangs in the hive, if we except the L. and Q. frames, and all having a length under the top bar greater than 14 inches. It may be impossible for us to give all the reasons for this now, but we hope you will take our word for it when we say there are very good reasons for standing a frame on end in the Extractor when the length is much greater than the depth.

We have before explained that we have our castings made to fit two different sized cans, viz., 17 and 20 inches, and we will now further state that we make the cans also of two different heights. To work nicely, the frame needs about the same amount of room to hang in the Extractor, that it has in the hive; to do this there seems to be no other way than to make every Extractor to fit the hive it is intended for. Of course you can use them otherwise, but we are well satisfied that the cumbrous machines now in use, are many of them destined to be soon laid aside for the more modern kind.

DIAGRAM OF PRINCIPAL FRAMES IN USE.

Figures given are outside dimensions in inches. Suspended frames have ¾ inch supporting arms, or an equal prolongation of top bar.



The following table is for the convenience of those ordering machines, and is intended to enable any one to decide for himself exactly what he can use to the best advantage.

Price List of Extractors.

[The figures in parentheses, just before the prices, give the exact *inside* width of the revolving frame of the Extractor, *in inches.*]

A honey knife is included with each machine; the price will be $1.00 less if no knife is wanted.

No. 1.—For the Gallup frame, or any frame 11½ inches wide and not more than 12½ deep..(12)	$8 50
No. 2.—For the American frame, or any one 12 inches wide and not more than 12½ deep. (12½)	8 75
No. 3.—For any frame 12½ inches wide and not more than 12½ deep........................(13)	9 00
No. 4.—Standard Extractor, for any frame 13¾ wide and not more than 12½ deep.......(14¼)	9 00

The above are all in shallow cans, 17½ inches high, and are very convenient for placing at such a height as to allow of running the honey directly into the barrel or any other receptacle, and still not be too high for any one to work conveniently. The following numbers can also be used in the same way, unless the operator is short in stature; in that case, a shallow box may be inverted to stand on, but is somewhat inconvenient.

No. 5. This is made expressly for the Langstroth frame, which is to be used standing on end; it will take any frame whose top bar does not exceed 20 inches. and depth 9½ inches ....(10)	$9 00
No. 6. The same except that it will take a frame of 10½ inches in depth.........................(11)	9 50
No. 7. This is made expressly for the Quinby *suspended* frame, and will take also the other kind when the end bars have a depth not greater than 11½ inches......................(12)	10 00
No. 8. This is for all Quinby frames, and all American frames having a depth greater than 12½ inches, and can be used for all the frames in our diagram, but is much more inconvenient than the smaller ones where they can be used...(12½)	10 00
No. 9. This machine is like No. 8, except that it takes a frame ½ inch wider, and is suitable for American frames that are 12½ wide and more than 12½ inches deep.........................(13)	10 00
No. 10. This is the largest machine that we keep in stock, and will take a frame as wide as the Standard, and as long as the Quinby..(14¼)	10 00

For frames having a top bar with an extreme length of more than 20 inches, we shall have to make an extra charge of $1.00, and we shall have to make the same extra charge for frames that exceed 14 inches the narrowest way. There are few frames of such extreme large size in use, yet we sold perhaps a dozen such last season. Also, we find a few who insist on an extractor that will hold 4 frames at once; unless the frames are very small, we cannot think such will be liked as well, yet we will furnish them when desired, at an expense of $1.50 extra. If you look into the matter, you will see that a very much larger and heavier revolving frame will be needed, and every ounce in weight added to this, hinders rapid work.

All of the last six—tall cans—have a support at the bottom for the frames to rest upon, and also to hold broken pieces of comb, should it be desired. The four first have nothing of this kind, for it is not needed, and would in reality only make them heavier, and be in the way; we advise purchasers always to take the smaller machines when they will take their frames. For instance, we would much prefer the No. 4, to the No. 10, even if offered at the same price, provided we had nothing but the Standard frame in our apiary.

Although our machines are now made much lighter and stronger, the gearing very much improved in looks as well as in strength, an improvement added whereby once oiling will last for years, a cover and strainer added, and the prices reduced, yet we still make the proposal that we will, to anyone, who has purchased one machine, give 10 per cent off on all he may sell after that; and this is all we can do in the way of furnishing them at wholesale. To dealers who advertise our Extractors, we will give 25 per cent off. This offer refers only to Extractors and honey knives.

INSTRUCTIONS FOR USING AN EXTRACTOR.

Many of our new friends have asked for directions for using these machines, but really they are so simple, that it seems that little advice need be required. They are all ready for use when received, and most that is required is to screw them fast to some box or bench just high enough to allow the gate to run the honey into the bung-hole of a barrel. Do not undertake to work unless the bees are gathering honey, or you will be very likely to have trouble. The best time is when they are busy in the fields, and the yield is good, you will hardly need any smoke. Carefully remove a frame from the hive, and then with a series of sudden jerks shake the bees in front of the hive or on top of the frames, as you may find most convenient. When you have shaken off as many as you can, take a bunch of asparagus tops, and gently brush off every bee in front of the hive. Now with the honey knife carefully cut the cappings from all capped cells; to do this quickly you will slide the knife under the caps in such a way as to have them come off in one entire sheet. In regard to straining the honey, we know of no way that answers so well, all things considered, as to hang the little bag sent with the machine, in the bung of the barrel; this keeps it all close and tight from flies and dust, and when you stop work for a little while, it is all safe, without the necessity of covering anything up. Two such bags are really needed, so that one can be kept clean and ready to take the place of the other when it becomes filled with impurities. As the sediment always settles to the bottom of the bag, the sides work well as a strainer for a long time. Cloth strains honey more perfectly than the finest wire cloth can. When the comb is uncapped it is to be placed in the Extractor; although you can extract one comb at a time if you choose, it is much better to have two, as they then balance each other, and the friction is less on the bearings, though our machines will stand the strain of the heaviest combs, one at a time, if need be. Turn just fast enough (and no faster) to throw out the honey, and there will be no danger of throwing out the brood; you will soon learn this by practice. Combs so full of brood that there is but little room for honey had better be left in the hive; there is little to be gained by working very close, and should the honey season suddenly close, there is danger of the bees starving, as we have known them to do, even in July.

If your hives are kept close to the ground, and no weeds allowed to grow around the entrances, there is very little danger of losing queens while extracting; yet it is a very good plan to keep them carefully in mind, and if you should not see them, we think it a little safer to shake the combs that contain much brood, so that the bees fall directly into the hive. Losing queens while extracting is rather expensive business.

After the honey is taken from one side of the comb it is of course, to be turned, and the honey taken from the other side. Where the combs are very heavy and the honey very thick, it may be best to throw it out only partially the first time, and then reverse, to avoid crushing the comb into the wire cloth by the great centrifugal force resulting from such a weight moving at a rapid speed.

IT MAY be there are valuable features found in the 12 or 18 dollar Extractors, not found in our own, but if such is the case, we are unable to appreciate them. We have added every improvement suggested that we thought would prove valuable, all things considered, and yet we find no great difficulty in furnishing them all crated and ready to ship, for the prices named. Any one who has carefully studied the matter will see that to make a machine capable of receiving four combs instead of two, will require an increase in size and weight, without very materially aiding in rapidity of work, among the masses. Reversing the combs inside the can, making the inside frame three-cornered, running the machine by gearing or belts placed under the bottom, etc., etc., have all had their advocates, but we think have generally been, after a time, discarded like the revolving cans. Our friends can rest assured, that we shall spare no pains in promptly adopting any real improvement that may come up. Please *do* tell the dimensions of the frame or frames you use, in ordering.

IMPLEMENTS, ETC., FOR THE APIARY.

SPRING BALANCE,

Is shown at No. 15, on the cover, a nice article...$8 00

These scales are made weather proof, and when arranged to suspend a moderate sized colony, may be left out all summer; as the figures on the dial are large and plain, we can see at a distance the average yield of honey per stock, each day or *hour* even; when weighing stocks for winter, they shorten the work very materially.

BEES.

I suppose we might give you a picture of our bees, but as they would probably look much like those belonging to other folks, we think we will not. When we sell a colony, we give them ten good combs, and if they are sent in a chaff hive, we furnish the upper story for comb or extracted honey, or for both, as may be desired. We understand by a tested queen, one that produces three-banded workers, reared from an imported mother. Some say they may not be pure even then. Perhaps such is the fact, but it is the best we can do. If you want to be sure of absolute purity, perhaps you had better send for an imported queen. We will send one for $7.00, or will send a colony containing one for an addition of $5.00 to the prices given in every No. of GLEANINGS. This will make a colony of bees with an imported queen for only $12.00. Isn't that liberal?

BARRELS FOR EXTRACTED HONEY.

These are made of the best white oak, and are made under the supervision of a practical bee-keeper. They are often used without waxing, but as there is always a liability to leak, we prefer having them well coated inside with paraffine. To do this, the barrel should be made moderately warm by standing it in the sun, or in a warm room for several hours. Melt 4 or 5 lbs. of paraffine, and pour it in the bung-hole through a funnel; quickly drive in the bung, and then roll the barrel about until every spot is coated. If you do not get it to touch every spot, your labor is very likely all in vain. If well done, the bung should fly out with a pop; pour out the remaining paraffine, and your barrel is all right. The paraffine is much cheaper and it coats the barrel better than wax, because it is less dense; it also takes a less quantity to coat the whole inside perfectly. It is not necessary to paint them, but they, like everything else, are more durable if kept painted. Plain barrel, $2.50; waxed, $3.00; waxed and painted, $3.50.

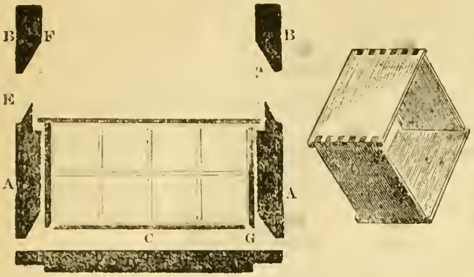
CAUTION.—A mixture of wax and rosin was at one time recommended, but the rosin is sure to taint the honey in time, and we have now on hand quite a lot of fine clover honey that will scarcely bring half price on this account.

COMB FOUNDATION, OR ARTIFICIAL HONEY-COMB.

Those who are still doubtful about the value of this new article of manufacture for the apiary, had better get a small piece and try it for themselves, or try a single section box, which we send by mail for 5c. Abundant testimony from honey producers—not theorists—have, we think, fully decided the following points. Comb honey built on fdn. of pure yellow wax, is so nearly like that built naturally, that no one would ever notice the difference; brood combs built on it are entirely free from drone comb, are straight and true, and contain considerably more brood in the same space than natural worker comb, on account of their mathematical accuracy. With pure yellow wax, we have no fear of any serious troubles in sagging and stretching, but with paraffine, ceresin and all compounds it has been our fortune to experiment with, there is trouble invariably, and even a very small proportion of these substances added to the wax injures it in this respect. Pure white bleached wax looks pretty, but so far as we can learn is no better in any respect than the pure yellow; it is considerably harder than the yellow, and it is therefore worked slower; it is also much more liable to give comb honey with thick bottoms to the cells. During a good yield of honey a sheet of fdn. will be built out so as to contain eggs and honey in 24 hours, and you can easily prove that the wax used is that furnished by the fdn. itself by weighing the sheet both before and after it is drawn up into comb; you can also have comb made from fdn. of colored wax, and it will be observed that the color is seen to the tops of the cells. Also, if we give the bees a piece of fdn. unusually thick, they will use the surplus wax to build comb quite a distance below the piece of fdn. We are prepared to furnish both white and yellow; but at this date we are inclined to think the white will be little used, for the reason mentioned. For prices, and price list of machines for making the fdn., see last No. of GLEANINGS.

HONEY KNIVES.

WE ARE frequently asked why our honey knives are $1.00, when good ones are offered for 50 cents each. It *is* true that a honey knife will answer about as well for uncapping when made with a blade about half the length of ours, and it will also *work* as well put hastily into a cheap wooden handle, as if put into one made of solid ebony nicely feruled, like our own. Do you know that you often take better care of a smooth, nicely finished tool, than you do of a rough cheap one? Again, very often during the extracting season, you will need a thin-bladed knife long enough to reach clear down to the bottom of the hive; this ours will do, and it is made so thin, and of such fine steel, that it will spring into a straight-bladed knife with slight pressure, and without injury. Crooked pointed knives, it seems to us, are a great blunder, and we have tried in vain to use one; a knife like ours, that is sharp on both edges, and also on its rounded point, offers every facility, we think, for uncapping all sunken places in the combs. Some of our California friends have asked for knives having a slight curve the whole length of the blade, and we find this curve can be given any thin-bladed knife, by simply springing it with the fingers, using a cloth to prevent being cut. Should you afterwards want it straight, the curve can be taken out in the same way.

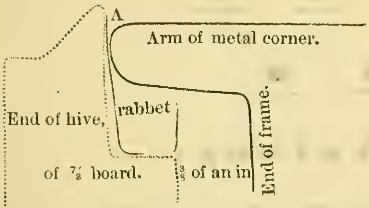


SECTION BOXES, AND THEIR POSITION IN THE HIVE.

The above cut and the cuts on the cover, will make every thing plain, almost without explanation. As we send a complete section box with nice strip of fdn., and printed directions for fastening it in the frames, by mail for 5c., we will not attempt any description here. The cut on the left, shows one of the broad frames containing 8 sections, and A, A, are the ends of the hive. B, B, are the end strips that are nailed under the cover of the hive, and C, C, is the cover itself, before being nailed on to B, B. E, shows the shoulder that holds the cover on the upper stories, while the bevels hold it securely in place, and exclude rain and wind.

THE METAL CORNERS.

PERHAPS the readiest way of understanding all about these, will be to order a sample frame, which we send by mail with a bit of rabbet and sample transferring clasp, for 15c. For the convenience of those who do not get the idea at once, we submit the following diagram:



It will be observed that the frame is supported entirely on knife edges crossing each other at right angles, making it impossible for the bees to wax the frame fast, and almost impossible for you to pinch a bee in putting the frame down, even if you take no pains at all, to get them out of the way. We prefer to have the tin rabbet reach up above the end of the corner as at A, because the bees are so much less disposed to try to propolize the bright tin; also when replacing the frames, the corner arms glide smoothly into place as soon as they strike the rabbet. The rabbet may be used without the corners, or the corners may be used without the rabbet, but neither of them alone give us a frame so perfectly movable; and as wood is always giving more or less, they can not hang perfectly true. Neither can a frame be slid on the rabbets up to its place as quietly as when all the bearings are of metal.

HOW TO MAKE THE FRAMES.

Our frames were first made of strips of straight grained pine, only ⅛ of an inch in thickness, and it is surprising to see how well such combs have stood. On one occasion a number of these heavily filled with honey fell from the top of a barrel, yet not a corner was injured, and not a comb broken; these were Gallup frames, however, only 11¼x11¼. For the Langstroth frames we now make the top bar about 10-32, and all the rest of the frame 7-32. Adair, American, and Gallup frames are all made of 7-32 stuff throughout. The Quinby size may have a ⅜ top bar, but the bottom bars might all be not more than ⅛, were it not that the frames may be sometimes used for transferring, and that the weight of the combs would sag the bottom bar, which is a very bad feature, if we wish to work closely and avoid killing bees. The top bars would not require so much wood were it not that honey boxes are sometimes placed on them, and it is advisable to be on the safe side. When we depend entirely on the use of the extractor, we would prefer a space of half an inch between the ends of the frames; but for box honey, small bits of comb will be built in this space, more than will be the case if ⅜ only is allowed. It requires a *very* careful operator to work fast, and avoid pinching bees, when only ¼ or ⅜ inch is allowed.

The two following cuts may assist some in putting on the metal corners:

Fig. 1.

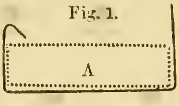


Fig. 2.

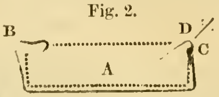
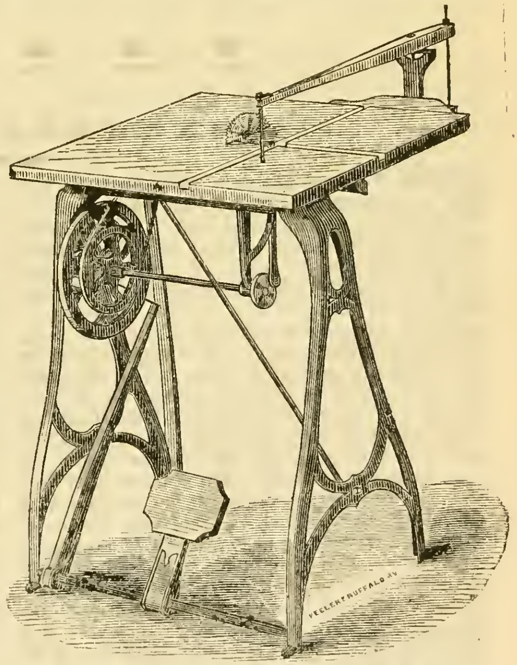


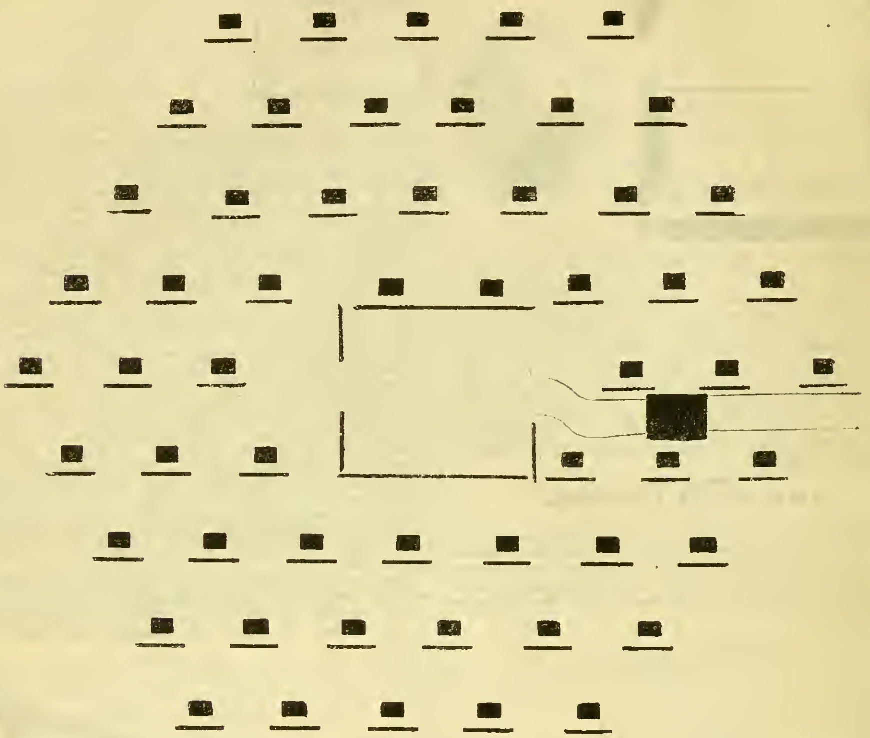
Figure 1, represents the points ready to be closed down and clinched into the wood, which is represented by the dotted lines A, A. Fig. 2, shows a point badly clinched at B, and one perfectly driven down at C. The line D, shows the direction in which the finishing blow of the hammer is to be given; in fact this blow should sink the metal slightly into the corner of the wood, drawing it up tight at the side C, and on no account letting it bulge out at B, nor allowing the point to curl up. A light, properly made hammer and a little practice will enable anyone to make every point like C. Should you get one done badly, you can with a pair of plyers straighten it out and *make* it go right. The objection has frequently been made that this takes more time than to nail them; even if this were so, we are enabled to employ girls or other cheap help (we beg pardon ladies, but we never yet saw a community that did not furnish more or less females, who would be glad to get some such light work), who could not possibly nail good frames; then after they are done, their superior strength and lightness compared with nailed frames, fully make up the difference in price. We will send you a sample frame by mail, just as we would have it, for 15 cts., (American and Gallup size 12 cts.) including sample of rabbet and transferring clasp and you can test it by the side of your own frame in your hives. If the nailed ones do not seem awkward after using it, you, of course, need not invest any further. See our price list for further particulars.

The metal corners were patented June 18th, 1872, but we have "repented," and hereby give the invention freely to our readers. If anyone can make them cheaper than we do, we will try to rejoice, because it will benefit the people.



FOOT POWER CIRCULAR SAW, AND SCROLL SAW COMBINED.

The above machine is a very handy implement in the apiary indeed, and as we warrant it to cut common inch pine boards at the rate of 8 feet per minute, line measure, and other thicknesses in proportion, it will answer to make frames, hives, section boxes, and almost every thing wanted about the apiary. The table can be raised and lowered for cutting different depths, for rabbetting, grooving, joining and other work. Price with two 6 inch saws, all needed guages, etc., $35.00; with the scroll saw attachment as given in cut, $40,00. The buzz saws, will reach through 2½ inches.



Hexagonal Apiary.

SELECT the pleasantest spot you have, and have it where you will be likely to cast your eye on the hives every time you pass out or in the door. There should be room enough for the increase of both hives, and grape-vines for shade, and for 50 hives you will want a plat about 50 feet square. Place your first hive somewhere near the center, and support it on 4 half bricks. If it has no bottom board lay a board on these on which to place the hive. Now cover the ground for a yard about, with sawdust, tramped down that the wind may not blow it away, for we wish to have you take your first lessons down on the ground beside the bees. Do not fear they will object, for after they once get acquainted with you, they will be just as likely to alight on your nose with their heavy loads of pollen, as anywhere else, if it happens to be in proximity to their door-way. Sit down on the sawdust beside them, and teach them to get used to being caressed with your fingers. In a very few days, the most vindictive hybrids will pay no attention to your visits, but will begin to accept them as a matter of course. The only thing I know of that will make them cross when once acquainted, is getting a taste of stolen sweets, and you must beware of leaving bits of honey about, that may get them to robbing, and thus demoralized, for under such conditions they will sting without provocation and without reason. You should during these visits, be able to tell which bees are laden with honey, and which are not, and you must also get accustomed to the afternoon "play spell" that young bees take to try their wings for the first time, during pleasant weather. You should also get acquainted with robbers; learn their habit of approaching the entrance and then darting away warily whenever any of the sentinels approach them. A robber is known by his actions, and after you have once learned their ways, you can detect them even in the air, on the wing. Here, too, you will get acquainted with drones, and if in the proper season, also the queen. If you have given them a clean nice dooryard, you will see their zeal and pride in guarding and taking care of it, the scrupulous care with which they remove every dead bee, and even try to pull up audacious weeds and grass that may presume to try to grow too near their pathway. When you have become thus acquainted with all their motions, you are prepared to transfer them to a proper hive. When transferred, you are to place the hive exactly square east and west, and exactly level. When you have made a new colony, the hive is to be placed exactly 6 feet from the first, from center to center. In the diagram above, a grape vine trellis is shown on the south side of every hive, as something seems to be really needed for shade.

Implements, Etc.

MEDLEY OF OUR BEE-KEEPERS.

We are a little surprised that this work has had no larger sale, containing as it does excellent, large photograps of both Langstroth and Quinby, besides good sized pictures of almost all the prominent bee-keepers and writers for the Bee Journals. The name of each is plainly printed on them, and as it contains over 150 pictures, it makes a very pleasant study, especially after having followed these friends in their writings as we have many of them, for years. Think of having a good photo of Hetherington, Grimm, Doolittle, Bolin, Prof. Cook, Dadant, Dean, Davis, Gallup, Katie Grimm, Mrs. Harrison, Dr. Hamlin, Muth, Nellis, Nesbit, Wagner, Prof. Kirtland, Parsons, Carey, and enough more to nearly fill this page, all sent safely for only $1,00.

LAMP NURSERY.

This is simply a hive made of tin, with double walls; the space between the two walls which may be from ½ to 1 inch, is filled with water, and this water is kept at an even temperature of about 100°, by a lamp under the hive. The lamp is to be enclosed in a box to avoid drafts, and the whole should be in a close room, to save the expense of oil. The tin hive is to be placed a foot or more above the top of the lamp chimney. When the oil is purchased by the barrel, the expense is but little more than one cent per day. Get your queen cells on the plan given on page 5, and when capped over, they may be taken away from the bees entirely, and the frame containing them hung in the nursery. If you have followed the instructions given, the queens will all hatch out long before the workers, and all you have to do is to place them in any queenless hive or nucleus, as soon as they are hatched. You need not open the hive to introduce them, but you can just let them crawl in at the entrance, and the loss will certainly be no greater than that of inserting queen cells. You can if you choose, have several combs containing queen cells in the nursery at the same time, and when we can have queens hatching every day for weeks, we really enjoy the fun. It is easy keeping a supply of cells on hand, when we once get started, and we do not examine our nursery often than about five times a day. It will be observed that with the lamp nursery, we have no cutting, nor mutilating of our nice combs, as we do where we cut out queen cells. When the queens are old enough to begin to gnaw out, they can easily be heard by holding the comb of cells, next to the ear, and as they are ready to introduce as soon as they begin to cut out the caps, they may be safely taken out with a sharp pen knife, and put at once where wanted. They sometimes kill each other when crawling about in the nursery, but not often unless there are bees present. We have found a half dozen or more crawling about peaceably together on first going out in the morning, but they would be certain to kill each other, if left until a few hours older. Price of nursery with lamp large enough to burn several days, $5,00.

INSIDE OF EXTRACTORS, AND GEARING.

We can if desired furnish the inside of an extractor complete, including tinned honey gate for $5., but as it is next to impossible for a common tin-smith to make a can just right without one to look at, even could he afford them at our late reduced prices, we think it much better for you all, to order a complete machine, at least the first time. As we can send the gearing complete with the cast iron arm to fasten it to the can for $1,50, ($2,00 by mail), it may be well to order this from distant localities. With a finished extractor to look at, and the hoops to go around the top of the can (single hoops 50c. or $5. per doz.), a tinsmith might make them very well.

We cannot imagine why some of the friends insist that the inside of an extractor must be taken out when it is to be cleaned, when it is right in its place in the can in the very best possible shape, if we simply use a tea-kettle of boiling water. Give it a good swashing by turning the crank, draw off the water, rinse again, and what more is needed? During the honey season there is no need to clean it, if the cover be thrown over whenever you stop working, and we can imagine no necessity of removing the inside unless for repairs or that the can may be used for some other purpose.

CANDY FOR BEES.

This is made of A coffee sugar precisely as confectioners make it, only that is not worked as they do usually. For convenience in using in the hives, we make into sticks ½x2x10 inches, weighing about ½ lb. These sticks are just about right to lay across the frames under the quilt where the bees will take them very readily. This is perhaps the easiest way in which bees can be fed. In very cold weather, it should be well covered with warm blankets, and it is rather unsafe to trust to candy entirely, unless it is given them before severe weather that they may have time to get a good share of it down into the combs. The candy found at the stores will perhaps do as well, but it is generally more expensive. Lumps of any kind of sugar may be fed in the same way, but are apt to be crumbled down into the hive and wasted. Maple sugar in cakes, works beautifully, and cakes made of common brown sugar seem equally good for warm weather feeding; we have not tried it for winter stores. At the present price of sugar—11c., we are obliged to charge 17c. per lb. for the candy, but it will be cheaper for you all to make your own if you have the time. See How To Make Candy in our book list.

LARVÆ FOR QUEEN REARING.

Many failures are reported with this, just because it is ordered from too long distances, or at an unseasonble time of the year. It should be borne in mind, that if it is out of the hive more than 48 hours, or if exposed to a temperature lower than 80°, the larvæ will be pretty sure to be dead. If the bees remove it from the cells, you may be sure it was either chilled or starved. Send to some one near you who has an imported queen, do not have the larvæ out of the hive more than two days, and you will be pretty sure to get good nice queens. As soon as received, you are to insert it in the centre of a comb in the middle of the cluster of a queenless colony, and if it is all right, you will see them starting queen cells around it at once. Of course there must be no other eggs or unsealed brood in the hive, but it will be a very good idea to have some sealed brood.

MICROSCOPES.

These are real compound microscopes, and quite a different thing from the double and single magnifying glasses so often called by that name. The one we offer at $3,00, is a very neat instrument carefully packed in a mahogany box, with implements for the work of taking regular lessons in the insect world. You will find with it, that a single bee will make a study for a long time. Sent by mail for $3,15, and if you are not pleased with it, you can return it at our expense, and the money will be refunded.

FEEDERS.

Notwithstanding the great number that have been used and recommended, we really feel like recommending but the quart can with perforated tin over the top. It is virtually, a quart pepper box, and a pepper box will answer every purpose; if you doubt it just pour out the pepper and try one. You can feed even sweetened water with this arrangement. When first inverted, it may be well to hold it over a dish of the syrup, but it may then be carried where you wish, without any loss, if you keep it in an inverted position.

On some accounts, we like a feeder made of a bag of cloth tacked to a strip of wood about twice the width of the top bar of your frame, but they are objectionable because the bees are very apt to build combs beneath them if not watched closely, and because we have got to open and arrange the hive for them, open the hive to feed, and take them out when no longer needed. With the tin feeder we never need to open the hive at all, for if placed close to the entrance just at dusk, they will be found empty the next morning, and you have no fussing with the hive and frames. It may be urged that this can only be done in warm weather, and that the colony must be strong enough to be standing out around the doorway. We answer, feed candy in cold weather, and do not have weak stocks that need feeding in warm weather.

HOW TO SEND MONEY.

If you do not wish to take any risk of loss, send P. O. Order, registered letter, or get a N. Y. Draft, but as all these ways are expensive, especially for small amounts, I will make a suggestion. Probably not more than one letter in a thousand, is lost in the mail, but to be on the safe side, we will assume that one in a hundred will be lost. The cheapest way is to get a Money Order, but even at the low price of 10 cents, we pay $10. to have the one hundred letters safe, besides the trouble of getting the Order. Had you put $10, in each of the hundred letters, and lost one of them you would have been no more out of pocket. This would show that it only pays to register amounts exceeding $10. To make it a little safer, we call it $5., and we have for years sent all sums of less than $5., in the letters, and we have saved in fees, far more than the amount lost, besides saving our friends who received it, the trouble of getting it cashed. This plan only applies to persons of known integrity, for when the money is sent, they may if disposed, say they never received it. If you do not know *me*, you had better not send me loose money, for I may be only writing this to get the advantage. Do you ask why I do not stand the loss myself if it is only one letter in one hundred? I would cheerfully do this, were I not in danger of doing harm to make such a proposal in a public circular, for it would be too much like leaving the door to ones store open all night. Besides, I should have to charge a little more for goods, if I stood *all* losses. I would advise all to do business with as much economy as possible, but when losses come, I think it best that we each bear our share of them cheerfully.

Burnt sugar or candy, is poison to the bees, if fed in cold weather.

Sheets of fdn. are only to be fastened to the top bar, and should never touch side or bottom bar.

It is just fun to make colonies, rear queens or build combs even during a drouth, if you can afford the *sugar*.

We consider rubber gloves, or any other for handling bees, worse than useless; has any one found differently?

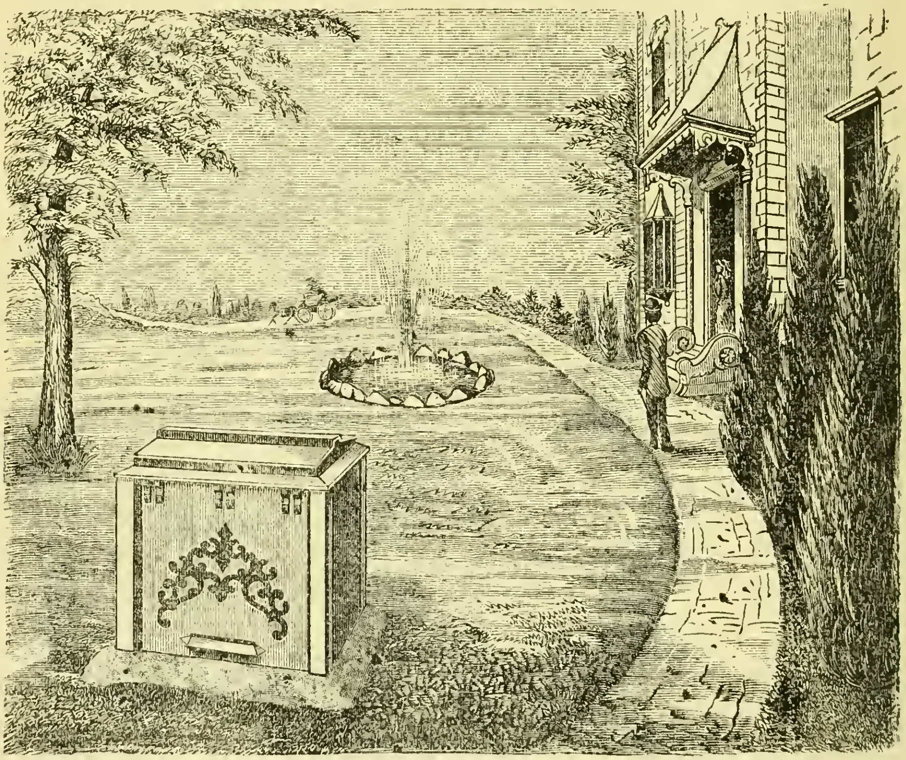
You can work nearly twice as fast in cutting up stuff for hives and frames, if you have a child to assist, by handing the pieces and taking them away.

A Beautiful Experiment.—Give a natural swarm a hive full of empty combs, and extract the honey as often as the combs are filled. The nice part of it is, that they frequently give you $10 worth of honey in two weeks after hiving.

We find no difficulty with our machines in extracting from new combs partly built, even if they are attached only to the top bar.

QUEEN CAGES.

These are made purposely for both shipping and introducing. The queen and bees are to be put into the central apartment, and the food at both ends. Having two places for the food that they may be in no danger of starvation, even if they are as much as two weeks on the way. Perhaps the safest way to give them food is to soak bits of sponge in honey; the wire-cloth partitions will hold these securely, and prevent their daubing the bees. The whole top of the cage slides off, so that we may quickly rescue the queen, should the bees prove hostile. There is no need of having a queen killed, if you are ready with a Quinby smoker to give them a puff the minute they attack her. The cages are made entirely of tin and tinned wire-cloth; as they do not rust readily, they may be kept for years. We could not afford to make them at the low price of 10c., were it not that they are made of scraps that would be almost useless otherwise in our work-shop, and the hands work at them during odd spells.



The Lawn Bee Hive.

The Lawn Hive has the upper story fastened on permanently, and that the lower frames may be removed, the upper story contains 14 placed at right angle to the lower ones, which are but 10 in number. The whole hive is made of thin lumber, the walls being double, and the space between and under the bottom board being filled with chaff. The preparation for winter being simply to remove the upper frames, and replace them with a thick cushion of chaff. These hives have not been as yet fully tested for summer use, although they answer the purpose intended for wintering, most beautifully. For further particulars, see November and December Nos., Vol. IV.

Several enquire if we would advise them to transfer bees in the months of June, July, Aug., etc. We really do not see how we can answer such a question, not knowing the persons. Among our neighbors, there are those who would work so carefully that they would be almost sure to succeed; and, again there are others who would be almost sure to fail. We are inclined to think that those who make these enquiries, would be quite apt to fail, for the careful ones would go to work and do it at any season if they were sufficiently anxious to have it done.

My friends; I am clear down to the last corner of the last page of my little "tract," and I do hope I have succeeded in telling you something you are glad to know, for I like to help people even if I do not always get pay for it. If I have helped you, you can return the favor by helping some neighbor, and he some other one, and so on. May the Kind Father above bless you all, and may you succeed with the bees, and all other innocent pastimes and pleasures that surround your homes. Be kind and gentle, not only with the bees, but with all about you, and may you all bear in mind who it was that said, "In so much as you have done it unto the least of one of these, you have done it unto me."

CLIPPING QUEEN'S WINGS.

IN the March No. the question was asked how much of the queen's wing should be cut off. Your answer was the tip end. The answer is incorrect, it will not answer. I have known them to fly with the swarm when it was half cut off. They sometimes get very small at swarming time: it wants cutting ⅔ to make a sure thing.

ALBERT POTTER, Eureka, Wis., March 8th, 1877.

When a boy, we kept "hens," and if we clipped both wings, they would fly very well with a little practice, but if we clipped but one, they would swing round and soon come down. We have tossed queens up in the air after thus clipping the tip of one wing, and they seemed to do about the same way. We have had them hop a little way from the hive, but never knew a clipped queen to lead off a swarm. It may do no harm to make sure work of it, but we dislike to see them unnecessarily mutilated. That a queen may lead a swarm away with half of both wings clipped off, we can readily imagine, but how she can "paddle" enough faster with a half wing on one side, to keep up with a whole one on the other, is beyond our comprehension. Will other brothers please testify?

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HOW MANY BROOD COMBS, AND BROAD HIVES.

YOU say on page 70, 6 L. combs for brood chamber is sufficient in summer in raising box honey. I would like to see you confine one of my queens to 6 frames or 10 either at times; and that brings me to the matter of hives. I used 2-story L. hives altogether until the summer of '70, when I made 3 of the 1-story for 20 frames and last year adopted them altogether, and have no desire to change. I never could confine brood to the lower story in the fall of the year, and with division boards, or what is better, I think, chaff cushions, you do not open so much space at once as with the 2-story hive. You say in supplement, Sept., 1875, the 1-story hive may be regarded as a simpler hive to manage, in all localities where outdoor wintering is considered safe. The past winter has been called "the coldest in the recollection of the oldest inhabitant" and I had no trouble with the single stories. I have some with a cushion or small mattress filled with stripped husks on each side of the bees; others with the bees in south end of hive and a division board next, and others with the quilt tucked down instead of a division board, which I like best until I want so much room the quilt will not reach the bottom.

Now you have got to using chaff and wintering on summer stands the long hive ought to just suit you as the frames can be turned with sides to the entrance and put chaff cushions all around and then the space directly over the bees that you say you can not afford to lose, can be used with a hoop between hive and cover. At any rate I think the "New Idea" best suited to this climate.

G. W. GATES, Bartlett, Tenn., Feb. 24th, '77.

It is an easy matter to get some brood in the center of each frame, in as many as 10 frames, or even more, but we do not know as we ever saw more brood in one hive than could be put in 6 L. frames, if they were filled clear out to the sides and up to the top bar, as our friends Dean and Doolittle have them. The broad hives do very well, if you are going to raise extracted honey only, but even for that, we think with longer experience, you will say the honey is not stored in the outside combs with the same readiness that it is in combs directly over the brood. If we use the extractor only on the combs in the upper story, we shall find the 2-story hive the easiest to work with, and we shall be in no danger of having our bees starve because we have extracted too closely Hundreds of our readers have tested the broad hives, and perhaps 9-10ths of them have one after another, discarded them. If you look over the back volumes of any of the Journals, you will see their reports. Turning the combs around for winter is so much "fussing," that very few will ever take the trouble to do it.

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HOW MANY EGGS CAN A QUEEN LAY?

REPLY TO TOWNLEY.

WE REALLY are very much surprised that so many doubt that a good queen can produce 86,000 living bees at once, and especially friend Townley. After reading in the *A. B. J.*, a few years ago, statements made by D. L. Adair, E. Gallup, Hosmer and others in the West, of queens that would keep a 4,000 cubic inch hive occupied with brood for 3 months in succession, we were greatly disappointed to find that the best we could do was to get only 1,000 square inches of comb kept full of brood for three months, by the very best queens we could procure from any breeders, and we sent for queens to nearly every breeder in the United States. On an average, our queens would only occupy 800 square inches of comb, and as we did not wish our honey in the brood combs, but in the boxes, we adopted 9 Gallup frames, or 1,035 square inches of comb capacity, as the right size for the brood chamber, to secure the best results in box honey. From 200 to 250 square inches of this comb will contain honey and pollen, with our management, leaving about 800 square inches as the brood capacity of the queen. Now, friend T., we have never said that our queens kept 8 out of 9 frames filled with brood, but that they kept 800 square inches full of brood, and that would take but 7 out of the 9, leaving 2 for honey and pollen, and we really have been feeling bad that our queens would average no better. Many of our queens, by the use of a division board, will fill the frames so full that there will not be 100 cells to the frame, (say 5 or 6 frames), occupied with pollen or honey even, so we have brood capped all along the top-bar and side-bars of the frames, while the other 3 or 4 will be from two-thirds to three-fourths full.

HOW MANY CELLS TO THE INCH.

As regards the number of cells to the inch, we had measured many times, and supposed worker comb near enough to call it 5 cells to the inch. But for fear that we had not tested it thoroughly, we went to our shop where we had 300 frames stored, all built by Italian or hybrid bees—we have had no black bees for 4 years—and measured those that had had brood in them, and we found one or two combs in the lot that 29 cells made just 6 inches. We also found one that to make 6 inches it took 31 cells, and the rest run from 29 to 31 cells to every 6 inches in length. We then went for our honey boxes, and there we found quite a number with just 4¼ cells to the inch; in fact, everything from 5 cells down to 3¾. We have also had Italian bees build comb in the body of the hive when honey was coming in very rapidly. 4½ cells to the inch, but the queen would not readily lay in such comb. Now, friend Townley, where your bees build 4½ cells to the inch, is it not when the honey is coming in so that the queen does not keep pace with the bees, or in other words, do they not build comb faster than the queen can occupy it with eggs, and is not the queen loth to lay in them?

WHY THE QUEEN DON'T LAY IN SOME COMBS.

Such has been the case with us, and that is we think the reason that we hear so many complain that queens will not use the fdn.; 4½ cells to the inch is neither worker nor drone comb, and if the queen would use it we would not want it, as it would take just as many bees to keep it warm as it would one with 5 cells; hence, a waste in hatching bees. If Chas. Hastings & Son will cite us to persons that have made such reports as has J. E. Hetherington, J. P. Moore, A. Grimm, Harbison and others, with box or bar hives for seasons in succession, then we will give up our division boards and fixtures. I tell you, gentlemen, it has not been done, *neither can it be.*

G. M. DOOLITTLE.

Borodino, N. Y., Mar. 8th, 1877.

We are considerably inclined to think the trouble that some have had in getting the queen to accept the fdn., has been in consequence of the size of the cells. The reports from friend Kellogg and Cramer, of the queens' using them so readily, were from fdn. made 5 cells to the inch. Will our friends in ordering, please state whether they wish 4½, or 5 cells to the inch. The latter is probably just what is wanted for brood combs and will answer for surplus also, but if the queen really has an antipathy to the 4½ for brood, it will be all the better for the comb honey, and it may have been the reason why we have never as yet seen a cell of brood in our sections. We do not know that we ever found any worker cells measuring less than 5 to the inch, but we did think a piece of worker comb sent us by friend D., was smaller than any our bees ever make. Come to think of it, we really do believe he has crowded his bees into such small quarters with his 9 frame Gallup hives, that they have gone and made smaller comb, just for lack of space.

STOCKS, HOW TO SELECT.

HOW TO START, WHAT TO PURCHASE, AND WHAT TO PAY.

AS MANY of the readers will doubtless purchase stocks of bees the coming spring, perhaps a few words in regard to selecting, will not be amiss. A majority of persons, especially beginners, are apt to think that if a hive is heavy with honey and there are live bees in it, such are the ones to purchase, without any regard to what kind of comb there is in the frame, or the size of the colony. This is a very mistaken idea. We will give our ideas of a good stock, and just such a one as we would select if we were purchasing ourselves.

As there are those, at present date, that persist in keeping bees in box hives, and as bees in such hives can be purchased for less money than they can in frame hives—besides, the frame hive might not be to your liking—we would select box hives, and then transfer to such hives as suited us. The stocks may be selected any cold day this month, by turning the hive over carefully, so as not to arouse the bees. Examine the combs carefully and see that they are all straight and nearly all worker comb, and there should be bees in at least 5 spaces, or in other words, the bees should enclose 4 combs, and 6 or 8 spaces filled with bees would be all the better, with from 10 to 15 lbs. of honey. If possible select such stocks as cast a swarm the previous season, or a second swarm, as such will have a young, prolific queen. Persons having bees for sale in box hives, as a rule, are not those that read Bee Journals, so they do not know the difference between a good stock-hive and a poor one, and will make no distinction in price, as all are alike to them.

Now about the price. Five dollars is about the price usually asked for bees in such hives during the month of April, but we have seen swarms sold for $8 and $10, that were worth but little more than the honey that was in the hive; and we have seen stocks sold for $3, that were better worth $20 than others would be as a gift. The same holds good in regard to frame hives. A person had better pay $10 for a hive that has the frames filled with strong worker combs, well stocked with bees, than have a hive with comb built crosswise of the frames, with two-thirds of that drone comb, and an old, poor queen, but plenty of honey, given to him for nothing. If you send to parties at a distance for bees, whatever the price may be, require of them a warrantee that the stocks sent shall be in the condition given above for a good swarm.

G. M. DOOLITTLE.

Borodino, N. Y., Mar. 10, 1877.

P. S.—A letter of enquiry enclosing a stamp or postal, will be cheerfully answered at any time.

We fear our friends sometimes do forget that it is a severe tax on the time and patience of a hard working bee-keeper to answer all the questions sent him on postals, to say nothing of the expense out. With us it is different, for it is our business, and those who ask many questions are usually subscribers, or customers, so we can afford to buy postal cards by the "bushel," and keep one or two clerks to answer your questions. Perhaps it will be well to send your inquiries to us, and we will ask friend D. to answer through GLEANINGS, that all may have the benefit.

TESTED, WARRANTED, AND DOLLAR QUEENS.

I WOULD like to Italianize next summer. Please define the difference between "tested," "warranted" and "dollar" queens. J. H. P.

Franklin, N. Y.

A warranted queen is simply a dollar queen with a guarantee, that if the workers, when they hatch, do not show three yellow bands, she is to be replaced with a tested queen. A tested queen is one whose workers have been examined, and found to show these marks of purity. The advantage of having warranted queens, is that they can be sent out as soon as they begin to lay, while every tested queen must be kept at least 3 weeks. It is a safe operation to buy warranted queens, because you will have a tested queen any way after a little more delay, and if the first is impure, you will have a hybrid free of cost; in fact, you get something for taking her, for you get her and a tested queen for less than the price of the latter alone. Why not always buy warranted queens then? Simply because you cannot commence rearing queens as soon as received, as you could with one that was tested by some reliable person. Dollar queens are defined under the standing advertisement of them. When we get a locality entirely free from black bees, the three kinds will almost amount to the same thing, and a dollar queen will be all anybody will want, unless we can get an extra price for those that are extra prolific, or that produce extra honey-gathering workers.

Heads of Grain,

From Different Fields.

I AM a man upwards of 80 years of age. Last spring I had on hand 8 stands, I increased them to 33 stands, and 4 went to the woods; I lost one by moth by my own carelessness. I saved 600 lbs. of box honey. I use a hive 14x14x16 outside measure, and metal cornered frames. The most trouble I have in working with bees is with my eyes and ears, or in other words, I am too nearly deaf and blind.

CARMEL CHENEY.

P. S.—I have 4 Vol's of GLEANINGS put together in separate volumes with a shoemaker's awl and waxed thread, and I refer to them often.

C. C., Yankee Ridge, Mo., Dec. 21st, '76.

I have been a subscriber for the past two years, but times are so hard and no sale for honey, (even at 15c. for nice cap,) I thought I could get along without GLEANINGS or Magazine either, but find I can't do it, so send it along for another year. I packed 24 stocks mostly in good condition, in chaff, and from Nov. 20th to Jan. 28th, they never had a flight at all; it came off warm and they have had a good cleansing flight since. All but one seems all right, and that one was one of my very best stocks. The honey was coming out at the entrance, and on examination I found 7 of the 8 frames of comb all broken off about 2 inches from the top, and all the bees dead, smothered in the mass, except about a teacupful, which were completely sealed up in the hive. Now can you give me the cause? I have studied in vain for one.

ROBERT LEACH.

Capac, St. Clair Co., Mich., Feb. 8th, 1877.

We have just had a visit from a friend who has paid Mitchell $50.00 for the right of his hive for a single county, and he is to pay fifty more. This man did take GLEANINGS, but perhaps like yourself, concluded he could not afford it. He says he had never heard of Mitchell before, and did not know but the hive he bought was the one used by all leading bee-keepers.

It may be rather hard to decide why so many combs should break down all at once, unless you closed the hive so closely that the bees got hot, as was mentioned on page 71 last month, and finally melted the combs down. We have known this to happen in warm weather, and with the chaff we have no doubt that it might even do the same in winter.

BEGINNERS, A WARNING.

The past season has been our first in bee-keeping; we commenced with 9 in the old log gum, transferred the first week in May to movable comb hives. From the 9 we extracted 700 lbs, of very nice white clover honey, and increased to 29 stands. We extracted our last on July 21th, after which there was no honey stored till September. Had poor success in introducing virgin queens, not understanding the business; all were lost in their flight; the result was queenless colonies and plenty of worms. At one time we had but three queens to raise brood from to keep up all the colonies, but finally succeeded in getting queens in all the stands. Our queens were from Nellis and a portion from Mitchell. We packed with chaff and flax straw, on their summer stands; last week we opened them to let them have a fly and found 3 had starved, 1 smothered, 6 short of honey and 16 with plenty of stores. Most of them have brood in all stages. It looks as though we may be candidates for Blasted Hopes. But don't mark us yet, for with the aid of GLEANINGS and the *A. B. J.* to guide us, we mean to conquer.

P. A. RIEGLE.

Arlington, O., Feb. 10th, 1877.

You certainly will get into Blasted Hopes, if you do not take better care of your bees than to let them starve, after they have supplied you so bountifully, and we have given your letter as a warning to others, who are just commencing. We hardly understand about the virgin queens being lost in their flight, for after they are once introduced, we should consider them no more liable to get lost, than a queen of their own raising.

NATURAL VERSUS ARTIFICIAL SWARMING.

I increase by natural swarming and consider that the best and safest. Had one stand of bees swarm 3 times; I hived them all, and the first swarm threw out 3 more swarms, and the second swarm threw out one. That makes 7 swarms of bees from one in one summer; but I have reduced the 7 to 5 by uniting, and using the extra queens to the best advantage. Now comes the best of all, the old stand gave me 19 quarts of box honey—I say *quarts* because I cut up and put it in glass jars for my own use. Bees Italians or nearly pure. By the way, let me thank friends Oatman & Co. through GLEANINGS for the honorable and satisfactory way they furnished me queens last summer. Look out for a steroscopic view of my apiary about next May.

A. S. DAVISON.

Aullville, Mo., Jan. 16th, 1877.

I began the spring with 12 stocks. I got about 20 swarms and 150 lbs. honey; mostly box honey, and they never sealed it over. What was the cause, were they too cold? I tried to prevent swarming by cutting out all queen cells, but I failed. Only 2 filled their sections, and they were covered with quilts. I have made a lawn hive and it looks nice. I have not the scroll-work, but made it of 6-inch boards, it looks like siding. I have about 200 sections started with comb, but no honey. I sowed a patch of mignonette which stands a deal of frost; also rape, which I sowed on my onion patch last fall. It kept in blossom till Nov. 30; it stands a freeze that makes ½ in. ice on water, and blooms 6 weeks after all other honey plants are gone. Bees worked on it all the time.

A. FIDDES.

Centralia, Marion Co., Ill.

I put 70 swarms in good condition into winter quarters, and have not troubled them yet, as I think too much "fussing" is not good in cold weather.

JAMES L. GRAY.

Brockway, Minn., Jan. 23d, 1877.

I have 36 stocks this winter; had 24 to commence with last spring; some of them were weak. I got over 1400 lbs. of box honey and about 600 lbs. of extracted. Raised a good many queens, sold several swarms and three or four left to hunt a home of their own. I have about 1000 lbs. of box honey yet, where is the best honey market in my reach? Could you give me the name of some good honey merchant in Pittsburg?

THOS. S. HOLSINGER.

Six Roads, Bedford Co., Penn., Feb. 27th, 1877.

Will some one tell us who is at present buying honey in Pittsburgh?

Bees did well here last year. I had six stands in the spring, increased them to 17, took over 400 lbs. of box honey from them, and sold it at 20 and 25c. per lb. My bees have all wintered well so far on their summer stands.

J. H. MEYERS, Decatur, Ind., Feb. 10th, 1877.

Which is the best mode of making artificial swarms: by dividing, or on the nucleus system, and which is the most profitable and surest? **Geo. Dormise.**

Careyville, Champaign Co., O., Feb. 12th, 1877.

Make your nucleus in a full hive with two or more combs, and as soon as the queen begins to lay, build the colony up with brood from the old one. Beware you do not get too many weak stocks on your hands at the approach of winter, if you practice artificial swarming.

Can two-story hives be used to advantage where a frame 13½x10¾ is used? Also, what is the greatest depth of frame that will admit, with profit, an upper story? Can you inform your Southern subscribers if the basswood will grow in the South, and where the trees can be secured? **W. B. Corbett.**

Yorkville, S. C., Feb. 14th, 1877.

We have used frames a foot square for two-story hives, but the bees, unless the colony is very strong, seem loth to go up so far. We prefer the L. frame on that account to anything deeper, but very good results may be obtained with others. Basswood will thrive, we believe, anywhere in the south.

All the stocks of bees (70) that I packed on all sides with chaff, are in tip top order; have not lost one to date, while of those with chaff only on top and one side, in long hives, (70) I have lost 9, and these were the big, "Galluping" swarms, that would "winter well enough anywhere." **J. H. Townley.**

Tompkins, Mich., Feb. 27th, 1877.

The chaff hives are certainly ahead in our neighborhood.

Farmers around here say I am making more money with less work, with bees, than they with their farms. I tell them to wait until I get *more* bees, and then we shall see, but I fear they over estimate the business; will have to get Heddon to talk to them.

J. H. Martin, Hartford, N. Y., Feb. 5th, 1877.

PAPER HONEY BOXES.

I will state what I have done in the way of improving the boxes for surplus honey. I think it is original. It consists of a strip of hard bristol board cut across with the point of a sharp knife and bent at right angles, and pressed into the box, and a piece of comb stuck on for a starter. As soon as filled I remove the boxes and press the cardboard frame out with the comb and honey, which gives me the wooden boxes to replace at once. By so doing I need but one set of wooden boxes to a hive, as the honey is sealed in these paper boxes. You might state this to our brother apiarists, for their examination.

Alden Bradford, Tiverton, R. I., Feb. 3, 1877.

We have thought of the paper boxes, but they would be more expensive than the pine we use, and not as strong. The plan of pushing the frames into the honey box, amounts to about the same thing, as the way we now manage. By putting 8 in a frame, we are enabled to use upper and lower stories all alike, whereas, we should need some extra box or case, did we adopt your plan, besides the trouble of getting off boxes, compared with just lifting out a frame that is suspended on a strip of metal.

Bees are doing splendidly up here in Northern Michigan. I commenced 3 year ago with 4 swarms and now I have 43, and have sold about 20 swarms.

Leonard Reed.

Orono, Osceola Co., Mich., Feb. 24th, 1877.

Last year we had 40 stands, lost all but two. Increased to 34. Would your box hive men like to know how I did it? If so, say so. **Dr. C. M. Joslin.**

St. Charles, Mich., Feb. 17th, 1877.

If you mean that you increased *two* to 34 in one season, of course we all wish to know all about it. *We* should call it one of the impossibilities, even if you had all the nice combs and honey you could ask for, and we might almost say queens too.

Your sections worked well last summer, and I now make the nicest 4 lb. honey box out of those strips I have ever seen. Take 26 and if they are properly put together the sides and bottom will be tight, the two ends open, and in top there will be three slits to put in fdn. Now set three in a row (9 will go on a hive) and glass both ends, and you will have all the advantages of a 12 lb. box. The sides project so that when two boxes are put end to end there will be an opening for the bees to get in.

A. F. Stauffer Sterling, Ill., Feb. 9th, 1877.

My neighbor, Mr. Alfred Hart, got a hive of bees late in the fall without stores, and on being told that but little could be done for them concluded to experiment. He made a glass case, put the hive in it, and set it in the kitchen in front of a south window and fed them on sugar syrup outside of hive. They flew inside of the case and went back to the hive without difficulty, and have been raising brood all winter. So far they seem in good condition. If you wish to be bothered with it will report further in regard to the case. **W. O. Atkinson.**

Vermont, Ill., Feb. 23d, 1877.

Please report farther by all means. Have not a great many of the bees died? And do not they soil the case inside when they fly? Please tell us how large the case is and how far they are allowed to go from the entrance.

EXTRACTED VERSUS COMB HONEY.

Now I desire to run my bees for extracted honey exclusively the coming season, and have only a partial stock of combs. From all the reports I have seen, and not fully decided as to the safety of depending upon fdn. for this purpose, I want your advice upon the subject. How would I fasten them into old frames? Am retailing considerable honey in the city and find I can sell 100 lbs or more of extracted at 20c., without packing, to 1 lb. of comb at 25c., while 4 years ago the reverse was the case. I think we honey raisers are greatly indebted to friend Muth for his persevering and successful efforts in establishing a market for pure machine-extracted honey.

M. Nevins, Cheviot, Hamilton Co., O. Feb. 18, '77.

No one has complained of the fdn. for combs to be used in the extractor, we believe, and you can calculate on having honey in these new combs in 48 hours, if put between two old combs. If we can produce combs that the queen will certainly not use, it will be a splendid thing for using with the extractor, and perhaps those made on cloth, may be just what is wanted.

Spring dwindling has reached this northern land—or something else that makes it difficult to keep bees through the winter. We hope you will keep us posted in the latest improvements. Would like to hear how the hot-house arrangement gets on. Would it not be good here where we have nearly six months of winter and no joke about it?

Hugh H. McLatchie, Templeton, P. Q.

Hot houses, or anything else that disturbs the bees before spring weather, we think have proven failures.

NATURAL VERSUS ARTIFICIAL SWARMING.

Last spring I had 8 weak swarms of hybrid bees. They increased by natural swarming to 36 hives and one artificial swarm. I Italianized 2 swarms. I had one hive that increased to 9, and gave considerable honey; all have honey to winter well; I winter on summer stands; our seasons are so uncertain that it is not considered safe to increase by artificial swarming. Some of my neighbors had large apiaries in the spring of '74; they had an imperfect idea of artificial swarming, and commenced dividing; a severe drought followed and almost all of their bees were lost. I have known my bees to raise and kill drones some 3 or 4 times in one season and then not swarm. I think I shall prefer natural swarming; I like the excitement. I have a florist's plant (Bocconia Japonica) that is hardy and increases by root runners, that the bees fairly swarm upon from July to frosts. It can be increased, runs fast and I think it would pay to raise for bees.

M. L. BONHAM.

Clinton, Mo., Feb. 5th, 1877.

If you can increase from 1 to 9 by natural swarming, it seems rather queer that artificial increase is risky in your locality, friend B. On the contrary, we should say your locality was a splendid one. If your 9 were all provisioned for winter without any feeding, you should have made about 12 from 1 with artificial swarming, at least that is the theory. If theory and practice do not agree in the matter, it were well to find it out.

MOVING FOR BETTER PASTURAGE.

I commenced in the spring with 13 stocks in pretty fair condition, and with the help of some 20 or 30 frames of old comb, and one small swarm of blacks which I bought, I increased to 42, besides losing 5 fine swarms, which went to the woods on account of not being watched closely; my business preventing me from being with them all the time. I extracted 1200 lbs. of linden honey, and took 100 lbs. of fall honey in small boxes. It pays well in this place to move bees out on the prairie, about 10 miles from here, on the 1st of August. I put my bees in the cellar on the 1st of Dec., where they remained until the 27th of Jan., when I let them out for a fly. The weather has been fine here ever since, and they are breeding first rate now. By the way, friend Gormley, can't you tell another "big whopper," like "What a quart of bees can do in 8 weeks?"

FRANK J. FARR.

Independence, Mo., Feb. 10th, 1877.

VIRGIN QUEENS, INTRODUCING THEM.

You want friend Sayles to tell you how he introduces his "aged" virgin queens. Now I warn you that it will do you no good, for although I have seen him do it repeatedly and he has given me instructions enough to fill a small volume, I have failed *everytime*. My bees averaged 70 lbs. of honey to a swarm and 2⅓ increase per swarm. The honey, was at the rate of 4 lbs. extracted to 3 of comb. Bees in good shape now and none dead as yet.

PROPOLIS, TIN VERSUS WOOD.

What do you think of tacking strips of tin on the rabbets with the inside edge bent up for the frame to hang on? Will it keep the bees from sticking them? Now don't say get metal corners as I want it to apply to frames now in use that I can't put the corners on.

J. KERN DOUGLAS, Neosho, Wis., Mar. 4th, '77.

There is certainly no need of getting the corners unless you wish, but our friends should all learn that bees propolize wood much worse than they do tin; for this reason we would have the tin come up above the ends of the frames; also, a friend asks why wood-veneer will not do for separators; simply because the bees will attach comb to it so much more readily than to the tin, and because wood always warps in a bee-hive.

INTRODUCING QUEENS.

Most writers tell us (do they copy from one another, or give the result of careful experiment?) that the hive should be left queenless 48 hours, and then the queen be caged in the hive another 48 hours before she is released. Charles Dadant, on the contrary, (May, '76, pp.179,) says the queen should be introduced as soon as the old queen is removed, before the bees have ascertained their loss. If Dadant's method is equally safe, it is certainly preferable to the other, in the matter of saving time and trouble. Let us have this subject ventilated.

JAS. H. PARSONS.

Franklin, N. Y.

We would agree with Dadant, so far as to put the caged queen into the hive as soon as the old one is removed, and if more convenient, we often do so before we have found time to remove the old one. If anyone thinks it advantageous to wait 48 hours, or any other length of time, please let them give their reasons.

There are some of my neighbors who begin to feel an interest in bee-keeping, though they often say "humbug." Frame hives are a new thing here, so are Italian bees. I don't know how it will pay, but think it will pay very well, as we often get 75 or 80 lbs. of honey from one box hive, without any honey boxes at all, just by taking off the lid and cutting out the honey and letting them fill and cut again, &c. Z. D. HARRILL.

Mooresboro, Cleveland Co., N. C., Dec. 8th, 1876.

RIPENING HONEY.

We had 57 colonies of bees last spring. Extracted 1600 lbs. of honey, 1000 lbs. of clover and linn, and the balance fall honey. I guess you will have to put us in the column of Blasted Hopes. Not that we don't think we can produce honey, but getting it on the market in good condition is just what bothers us at this time. We extracted 1000 lbs. of clover and linn honey between June 25th and July 5th. We strained and ran it directly into the bbls., and bunged it up tight until a few days ago when the thermometer got a little too low to be good for some canned fruit we had in our honey house. So we set a kettle of live fire coals in to raise the temperature a little, but it never got above 40. The next we noticed was the white honey running out between nearly all the staves. We had the bbls. well painted and waxed. As this was our time to market honey (only a little late) we just rolled one bbl. out and commenced to put it into 3 lb. fruit jars. We filled all we had and stopped for a short time, and went into the house considerably elated over the nice white granulated honey, thinking how the people would like it. After awhile, said I, "Hark! what is that blowing?" We looked in our box where we had set our jars of honey, and every one was boiling over. We were not satisfied, so we drew two more jars and exposed them to a temperature considerably below freezing, and one of them boiled over. Now we think if that honey had been aired thoroughly we would have had no trouble. But wouldn't that spoil the flavor of the honey?

T. E. HAWKINS & BRO., New Frankfort, Mo.

It is our impression that the honey was extracted before it was well sealed; even this would have done no particular harm, had you not filled your barrels quite full, and left the bungs loose. We, at one time, had the honey ooze out at the bung of a barrel until it seemed as if we were going to get a small pail full each day, all winter long. After a while it seemed "satisfied" and "behaved." Leaving the honey in an open vessel protected from flies and dust, until it becomes ripe, in no way injures its flavor, so far as we have had experience, but cannot the bees do all this cheaper and better than we can? If we are correct, perfectly ripened honey, neither candies nor oozes out of the jars and barrels.

My bees come out and fly, and as soon as they discharge, ¼ of them seem to die in a minute or two; the snow is black with them. I use the American, Quinby, and common box hive with a drawer in the top; these are elevated ¾ of an inch from the stand. The air circulates under the bottom and through a small ventilator in side of the drawer. The bees in these box hives are the strongest I have. One good swarm in October in the Quinby hive is dead.

H. S. BOWMAN, Rollin, Mich., Jan. 30th, 1877.

The complaint mentioned, seems to come especially from your State, and we fear your large crops of fall honey have something to do with it. Leaving the bottom as you mention, is very apt to make trouble, unless the colony is very strong, and they are in very old, tough brood combs. This latter point makes quite a difference, and we imagine those old tumble-down hives, so often mentioned, winter well, mostly on account of their very thick, warm combs.

I put into winter quarters 18 swarms, all in 8-frame L. hives. Made a box or bin 28 feet long and 31 in. wide, 2 boards high on one side and 3 on the other, cutting slots in the sides to correspond with the entrances of hive making, 9 on each side. Put the bees in after cold weather came; putting chaff round and over them two or three weeks later, as the roads were so bad I could not get it hauled. I removed the honey board before putting the chaff in, putting cloth in its stead, bags, peices of horse blankets, etc. They did not have a chance to fly until Jan. 27th. And that time I found that one swarm was dead, with lots of honey. You can guess the reason—dysentery—the rest to-day are very lively, and are carrying water, and appear to be in good condition. Isn't spring dwindling caused by the bees not rearing brood enough to take the place of the old ones?

JOHN CROWFOOT.

Bloomingdale, Van Buren Co., Mich., Feb. 11, '77.

No. Weak stocks that raise brood earliest, usually dwindle most.

FOUNDATION MACHINES.

The machine turns out fdn. as perfect as any I have purchased. To any one desiring such a machine, I can say, I know of none that will do more perfect work, and I know of none cheaper. It is easily run and with a little practice a person can run off sheets in a few hours, that will furnish a large apiary. Some who understand machinery better than I, think it costly—also think it a defect that you do not put two sets of cog-wheels instead of one—just like the improved washing machines. I simply mention this but do not care now to decide, as use will demonstrate the matter.

J. VAN EATON.

York, N. Y., March 6th, 1877.

If there are mechanics near York, N. Y., or anywhere else, who can make a pair of rolls that will work together as perfectly as those we send out, for $30.00 or less, they should come out and let their light shine, by all means. If the machine works perfectly as it is, why add more machinery to it? We have carefully considered all the points mentioned, and would make no additions, even could they be put on without expense.

Please state some of the ways bees are put out to be cared for, or let by the year. What is a half interest bees?

HARRISON WARD.

Athol Center, Worcester Co., Mass., Feb. 9, 1877.

To let out bees on shares, you should hand them over, say the first of May, and the person who receives them is to do the best he can with them, returning the original stock and half the honey and increase in the fall. If new hives, queens, etc., are to be purchased, each one of you should bear half the expense. This will do for a general rule but if the stock is all in box hives and has to be transferred, then arrangements will have to be made to suit the case in question. Perhaps we should say that the custom like many other things, is just as the parties can agree, but we would advise you to have it well understood, as disagreements and dissatisfaction sometimes comes up.

WIDTH OF SECTIONS, SEPARATORS, AND COLLARS FOR WABBLING SAWS.

I think the fdn. as nice as it can be; couldn't desire anything nicer. I like the hive very much, but think the sections too wide, unless used with tin separators. I have tried sections from 1½ to 2 inches wide, and those 1½ in. wide gave best satisfaction. For convenience in handling I would prefer sections loose-fitting, but suppose you prefer them close-fitting, to prevent the bees from glueing the edges. Doesn't it injure a saw to screw it up between two wedges, by throwing it out of true, or warping it? The hole in my saw-table is just large enough for the saw to run in; should I set the saw wabbling I would have to make the hole larger; would doing so render it unfit or inconvenient for ripping?

ISAAC L. PARKER.

McMinnville, Warren Co., Tenn., Feb. 26, 1877.

We are more and more inclined to think that the separators will be used, for unless they are, there is pretty sure to be a muss with broken honey now and then. If they are used, we can lift off a whole upper story at once and send it to market immediately without even so much as looking into it. If there are unfilled sections, the retailer can send them back in the hive, or rather, he need take out only such as he chooses. Those that are left will be exactly in the right place to be filled the next season. Or, if you wish to extract the honey from the unfilled ones, you can do it with a whole frame at once, the separators will not hinder.

It does not spring the saw at all to screw it up between the wood collars, if they are flat and smooth. You must raise up or remove the usual table top, for it would injure it very much to cut so large a slot in it. Have extra tops for this work, with permanent gauges on them for each particular kind of work.

TEACHINGS OF GLEANINGS ON EXTRACTED HONEY

On p. 11, current volume, you mention the superiority of honey left in the hive until it is perfectly sealed, and yet on p. 49 you speak of extracting every 3d day, and do not say that this latter practice is in any way objectionable. Is it not the offering of this 3d day honey for sale, that has brought extracted honey into disrepute? My 3d day honey would not need an extractor for emptying the combs, turning such as would bear it on their side and giving a jerk would throw all out. I have seen honey *offered for sale*, which I supposed was some of this 3d day stuff, that looked like honey and water imperfectly mixed.

BRIAR, Ontario, Canada.

P. S.—I frequently see that people say they let their bees out to have a fly, on warm days in winter. How is this done? If I were to attempt it, my bees would alight on the snow, and never rise again.

Thank you friend "B." for showing up our apparent inconsistency. If you use a small single story like many of the patented ones, your bees will have every cell filled in 3 days during a good season, and what then are you to do if you do not extract? Again, there are localities, and seasons when the honey seems thick and nice, almost as soon as gathered, and Prof. Cook is among those who say they find no trouble with honey extracted before it is sealed. During a dry season, we can extract every 3 days, and get fair honey, but during a wet season like the two last, it may take 10 days or more to have it ripened so the bees can cap it. Now right here comes in the importance of having hives that can be piled up 2 or even 3 stories high. If the honey above is not ripe we can raise it up, and put an empty story under it, and thus give ample room, and ample time for capping either comb or extracted honey. Lifting a whole story and putting a new one under it, is very quickly done, even if a body be ever so busy.

We should not think of taking bees out in the winter, unless the weather was so warm they would be sure to return safely, and not even then, unless they were very uneasy.

I think I will be able to sell a number of extractors. The parties I sold to last season are well pleased with them.

CHARLES POOL.

Carthage, Mo., Jan. 27th, 1877.

FASTENING BEES IN THEIR HIVES, ITALIANS, WHITE COMB HONEY, ETC.

I must tell you about some of my chaff hives. I packed several last fall, as Townly and you advised. Some of them are weak in bees and stores, and one has the dysentery. I tried to fasten them up because they all tried to fly out, but that didn't do any good, for you might as well try to fasten up rats. They would gnaw holes in the quilt and get into the straw. Probably this is not a good test. I think the idea of chaff packing is all foolery. I will never try it again. I use 16 different styles of hives, frames and boxes. I think the extractor don't pay, when I get 25c. for honey. box comb, 6 lb. boxes. One thing about Italians; I have found out they fill the cells *too full* of honey, and it gives it a *dark color*, is not that so?

HARDIN HAINES.

Vermont, Ill., March 7th, 1877.

We are not at all astonished that you think chaff all foolery, and that extracting don't pay, and we shall expect you to call the entire business a humbug very soon if you persist in fastening your bees in their hives to cure them of the dysentery. Perhaps a few more kinds of hives, might help the matter, especially in the hands of a beginner. We have never as yet seen any symptoms of dysentery among bees in the chaff hives, but very likely bad stores might produce it. If bees try to go out of hives placed out doors, we should let them get out by all means even if they did die. We think of no circumstances where we should undertake to imprison them, unless they were to be moved, and then we would fasten them in just as short a time as possible. You may be right in regard to Italians producing comb honey that has a darker appearance than that produced by the blacks. The latter sometimes cap the honey when the cells are not quite filled to the extreme top, and the capping having nothing directly under it, looks very white, while the comb honey made by the Italians, being filled with honey clear up against the caps, will have a solid leady appearance. It seems rather hard to blame the Italians for giving full measure as far as they go, just because the imperfect work of their dark cousins looks whiter. Will have to give you credit for first mentioning this matter friend H., even if you have sadly abused your sick bees and then laid it to the chaff.

FASTENING BEES IN THEIR HIVES, AND A "CORN-CRIB-HOUSE-APIARY."

I have put all my bees in a room in my barn, and intend to keep them there the year round. The question is, shall I leave the entrance to the hives open so they can get out doors, or keep them fastened in during cold weather.

J. WOODBURY.

Huntington, Mass. Jan. 10 1877.

If you were very sure to be on hand to let your bees out whenever it was warm enough, it might do to fasten them in, but judging from the way most people do, we should say do not fasten them in at all. You can if you choose, close the entrance so but one bee can pass, and this will probably answer all practical purposes as well as closing them entirely. Be very careful that they do not get out into the barn and get tangled in webs and on the windows, or you may lose a great many in a very little while. At present we are much inclined to think a house apiary should be open like a barn or corn-crib, having the hives well packed with chaff, but the room perfectly open and well ventilated. This would do away with all dampness in winter, and would keep it cool and shady in summer. Who will try one?

You have, we think, now hit the nail squarely on the head; and if Disston cannot furnish a splendid saw, and then astonish the natives by his printed illustrations, we are no judge of the matter. However, if you have unfortunately lost the proper *pitch* of the teeth, you want Holly to assist you in finding it.

D. P. LANE.

Koshkonong, Rock Co., Wis., Jan. 1, 1877.

Bee business is playing out with some here, but I think I will try to hold on to it a while longer. I had last fall about 100 stands, and sold over $500 worth of honey, and kept some for my family and bees. It has paid me better than any other business I ever engaged in. I bought 25 stands in L. hives for which I paid $100. I would like to have 500 at that price.

P. J. AFFLECK.

Berryville, Clark Co., Va., Jan. 27, 1877.

I am an old man but a young bee-keeper, who has all to learn. Most things in GLEANINGS are unintelligible to me just now but I may improve. Were it not for the distance I might get your materials, as it is I must blunder on. I cannot make a frame that I can take out. Perhaps I may do better with Quinby hive, I will try. We have but little winter here, only December and January. In February bees make comb in surplus boxes. Last year was a strange one, in February bees worked well, then, hibernated till July. After that they did well I suppose, for I took 100 lbs. of box honey from 3 hives. We had a 71 day's drouth in this interval. My bees are the common black bee of the country, and allow the moth full liberty—hence the need to transfer often. I suppose my only way is to read and feel my way to more skill and knowledge. J. B. NORMAND.

Houston, Texas, Nov. 1876.

You certainly will require more skill to handle a Q. frame, than the ordinary suspended ones. The Italians will take the moth troubles, entirely off your hands.

SIZE OF BROOD APARTMENT AND SPREADING THE BROOD.

You recommend 10 or 11 frames to a hive. My hives have 8 frames, 18½ by 10, only 6 of which are used by the queen. My best hive was filled to its utmost capacity, having 124 lbs. of honey exclusive of top boxes. If 6 frames will do this, will 10 or 11 do as much more in proportion? I object to having more frames than are necessary. The question is, how many are necessary to give the best results? In the spring I expect to find all the outside frames filled with honey. Will it be expedient to remove these outside frames and put empty combs in center of hive to facilitate brood rearing? I left 3 double-width hives on their summer stands, having 6 inches of chaff on the two sides and 6 inches all over the top, with a lock of hay against the north end, held in place by a flat stone, and a lock of hay over the entrance, kept in place by a shingle. The weather has been very cold and windy since the middle of Nov., but Feb. 1st being warm I opened the entrances. A few of the bees came out, but did not speck the snow in the least, and I conclude they are all right. The bees in the cellar, with no upward ventilation, murmur some, but they do not fly out, and so far as I can perceive, are in good health. J. H. PARSONS.

Franklin, N. Y., Feb. 2d, 1877.

According to Doolittle, 4 or 5 frames the size of yours, are all that an ordinary queen can use, and we think 6 would be a great plenty. If we are right, 10 or 11, would do no good, but rather harm. We would remove the outside frames and put in their place chaff cushions to facilitate brood rearing. We are not satisfied that spreading the combs is an advantage, if there is plenty of room at all times to store the honey. This is a matter on which we need some careful experiments. When bees will fly without spotting the snow, we think them in the best possible condition.

BURYING BEES ON THEIR SUMMER STANDS.

I agree with you as to the value of chaff to pack bees in; it is not new to me, have used it with good success indoors and out. The best success I ever had with outdoor wintering was this; I took off the honey board, laid 3 sticks across the frames, filled the cover with fine straw and chaff, then banked them up as you would bury potatoes except in front, and let them fly at pleasure. They never came out until the air was warm enough for them to fly and return. A scorching sun and chill wind never affected them. I have wintered them or part of them so for several winters. Let the banking remain until the middle of May or later if need be. Be sure not to take it away until the weather is warm or it will set them back.

My bee-yard is drifted full; what will cause the snow to melt off so I can set them out by the middle of March?

WM. H. BALCH, Oran, N. Y., Feb. 10th, 1877.

If you recommend leaving the earth about the hives until May, we cannot see why you should wish to get the snow away in March: why not let them alone?

Will you or some of the readers of GLEANINGS inform me how many acres of the following bee plants will amply supply 100 colonies? Buckwheat, Rocky Mountain bee plant, mustard, rape, catnip and white clover.

JOSEPH DUNN, Bryantsville, Ky.

It will probably be a hard matter to decide. We will suggest 10 acres of each; this would make a very fair "Bee Farm." Let us hear from others.

I have had a foot power saw rigged up. I can get up a speed of about 1200 revolutions per minute almost instantly. It runs with ease and does all kinds of work connected with bee hives, section boxes, etc. perfectly. It is quite different from any foot power saw I ever yet read of. I may perhaps send you a description of it some time.

M. V. FACEY, New Hamburg, Ont. Can. Feb. 12th, '77

Please tell us about it by all means.

SHALL WE EXTRACT FROM THE BROOD COMBS?

I want to ask you to ask your readers to give their plan of extracting honey. Is it best to extract all the combs, or would they advise to leave 3 or 4 brood combs in the center untouched? We lose more queens in running bees for extracted honey than for box. Also I wish to ask the best way to kill the larvæ in drone comb, so as to use comb for starting in boxes? In leaving the comb out, as Doolittle suggests, until the larvæ die, one may use it too soon, and have it capped over by the bees; and at other times we don't know how to wait. I have held it over a lighted candle, but that injures the walls of the cells. Please give your plan. Last spring we began the year with 63 colonies, wintered on sugar syrup; they came out in fine condition; began swarming the first of June, and continued swarming for two months. At first I put them back and cut out cells, and tried every preventative, except extracting, but all failed, and I was obliged to increase from 63 to 125 strong colonies. I took about 5,000 lbs. of honey—extracted as little as I thought I could get along with—about ¼ extracted and ¾ comb. Next year I want to take about half extracted, as I could have sold my honey at better advantage at home, if I had had as much again extracted. The market for extracted honey is building up. I have nearly disposed of my crop of honey by keeping my neighbors supplied and keeping it in the stores in adjoining towns; selling comb at 25c. and extracted at 20c. retail. If large quantities are taken I throw off 5c. on comb, and 1 or 2c. on extracted. I load up a carriage and send my man out to sell through the country; have realized about 15c. per lb., after expenses for selling are met. L. C. AXTELL.

Roseville, Warren Co., Ill., Mar. 3d, 1877.

We would advise leaving the entire lower story untouched, unless it be the outside combs containing no brood. Not because extracting will injure the brood, but because there is always danger of letting the bees starve, unless they have a surplus ahead. This honey next the brood, is always nicely sealed, and fit stores for winter.

Our Homes.

But when thou makest a feast, call the poor, the maimed, the lame, the blind; and thou shalt be blessed; for they cannot recompense thee: for thou shalt be recompensed at the resurrection of the just.—Luke, 14: 13, 14.

ONE Sabbath morning one of the boys mentioned that he saw a young man on the street so intoxicated that he could not walk, and I spoke to the school after mentioning the circumstances something as follows:

"What shall we do children, when we meet drunken boys or men; we had better turn out of the way and have nothing to do with them, had we not?"

"Yes, sir."

"They had better be sent to jail, had they not?"

"Yes, sir."

"It is their own fault, and they have got just what they deserve, and it is no concern of ours at all?"

At this the children began to look from one to the other, and some of them were evidently a little troubled. Finally one little voice suggested that we ought to *pray* for them.

"Just exactly, my little friends, we are responsible for every boy in our community that does wrong. Now, is there nothing else for us to do besides praying for them?"

"Ask them to come to the Sabbath School."

"But you said a while ago, they should be sent to jail; now which is the best place for such boys, the jail or the Sabbath School?"

"The Sabbath school," came from a number of voices.

"How shall we get them to come?"

"Invite them."

"But," suggested one, "he would swear at us if we asked him to come."

I told them that my experience had been that they would be in no danger of being sworn at, if they went to these brothers on the streets, and asked them in a kind, pleasant way to come in and be one of us, and then I tried to explain how it was that it was our business, and in what way we were *all* responsible, for every case of the kind mentioned, that was to be found in our town.

Shortly after this, a young man broke into a saloon, and was detected in the act of taking money from the drawer. I found the poor fellow in jail, overcome by sorrow and shame, and completely discouraged. He said he had been unable to get work, no one seemed to care for him, and he felt that he was almost driven to the crime. I spoke of the Sabbath School, but he pleaded no fit clothes to wear. He knelt with me, and cried like a child, and before I left, he had almost promised to come with us if he ever had another opportunity. Before I saw him again, his friends had raised some money for him, procured his release, and he was told to "Never show his face in his native town again." The friends who subscribed the money, doubtless did it with kind intentions, though I can but feel that they committed a grievous mistake when they banished him from his native place, and turned him adrift among entire strangers. I felt that the place where he had fallen, was the very one for him to show by his future conduct, that he really could and would yet be a true man. Is it always a kindness, to shield people from the consequences of violating our laws?

About the time of the above occurrence, a friend found a boy a little out of town lying in the road. He took him into his conveyance and intended to take him home, but before he arrived there, he came to himself enough to say he would not be taken to his parents in that condition, but directed him to drive to a neighbor's. When they arrived there, the neighbor, in rather rude terms, declined taking into his house a drunken man. This seemed to add the final stroke to his humiliation and shame, and although he was a youth of but 17, he deliberately drew a revolver from his pocket, cocked it, and held it to his temple, saying that if they would not keep him until he was fit to go home, he would end his miserable life then and there. A drunkard's grave loomed up before him in the future, and what inducement was there for him to live? The friend who took him into his carriage, here stepped up and told him he would take care of him, and as soon as he could, got the revolver away from him, and found that it was in reality loaded. This was on Saturday night. At nine o'clock on Sabbath morning we have a Bible Class for young men of this class especially, and this friend, although he has long been one who ridicules and makes light of religion, proposed to take him up to this class, recognizing, seemingly, that in spite of all his unbelief, such a place would be the safest for one who, at 17, would endanger his life by risking freezing to death in the road, and afterward attempt suicide as a means of getting rid of all his troubles. When informed of the matter, I visited his home; I found quite a family of children, but none of them attended Sabbath School. The mother had been a church member, but for some reason, none of them had attended church more than two or three times during the past year, and yet this mother, with tears in her eyes, wondered why her boy, who had formerly been so good a boy, had all at once got into bad habits. One of the little girls had seen some of the little Gospel Hymn Books that were used in our mission school about three miles away, and I took one from my pocket and we had quite a little Sabbath School. As we rose after a simple prayer, tears were in the eyes of several. My friends, do you not think that old-fashioned Bible a pretty good thing after all, for troubles of such a nature?

Does anyone inquire if those who are very low in habits of intemperance ever get entirely over it? Within the past week we have seen the very worst cases that could be picked out in our town, come forward, and say that by the help of their Heavenly Father they would never more drink another drop, and these brothers are at this minute banded together going among their old companions entreating them to come and do likewise. Furthermore there are those with them, who have been in the better path all the way from a few months, to several years. One of the oldest of these, and one who has been a notoriously hard drinker, one who used to abuse a kind wife and a family of pretty children, said that he at one time, after the death of one of the little ones, wrote a promise in the family Bible not to drink any more. He even wrote this side by side with the register of the death of the little one, just because he felt that it would then be more sacred, but as he was not a follower of Christ, of course he did not go down on his knees, and ask the dear Saviour to give him the strength to keep to this good resolution. He kept sober for awhile, but as soon as he got among his old companions, down he went as he had many times before, and he then gave up, and thought there was no use trying. He afterwards got into a revival meeting, and gave his heart entirely to the Lord, and do you suppose he then drank any more? Of course he did not, and further more by keeping close to his Saviour in daily prayer, he, like the young man with the tobacco, lost all taste or desire for it. The smell has now become to him disagreeable. Do you now know why we call Jesus Christ our SAVIOUR?

Going into the jail to see the young man mentioned, I took a passing glance at three other young men who were there confined, and their faces so impressed me, that I asked permission to hold a Bible Class in the jail. When I first mentioned the matter, they seemed rather troubled and annoyed, but after a little talk, they were quite at ease, and before I left they, all but one, joined in singing one of the Gospel Hymns. When I then asked permission to kneel in prayer with them, they all assented, and knelt with me. Do you think as I left, promising to be on hand promptly every Sabbath, that any doubts beset me as to the propriety of the undertaking? Or do you think it strange that I really loved those poor fellows without having ever learned why they were imprisoned? While at the jail, I had some conversation with the sherriff's wife, and she told me of her native town where the churches and Sabbath Schools both seemed to have scarcely life enough in them, to hold out much longer, and of the way intemperance was prevailing, and then urged me to try and visit them long enough to start them anew. What a field there is for labor, and how it does open out and widen out, when one once gets to work. I thought the lady's face seemed familiar, and pretty soon I learned that she was the person who first suggested at that conference meeting, that I was the one to undertake the Sabbath School I have told you about during the past few months. Just one chance observation that she had forgotten all about, started the train of thought that led me into this work, and months after, I had been led into that very jail, step by step. In the course of events the lady who gave the advice, had in charge these very boys who, as they told her, felt they had hardly a friend in the world. Little do we know of the effect of a single kind and encouraging word, nor where the ball may stop that is once set rolling, for either good or bad.

Let us see! A young minister came to our town a few years ago, and by his boyish and earnest way, touched me, and made me feel more uneasy, than could perhaps the combined efforts of the best orators. I argued the matter with him, but he told me in plain, strong terms, that my influence was bad, and that I was *not* a good Christian. I tried to ignore him, and to go along in the old way, but finding no peace, I gave up, became humbled, and asked for instruction. Pretty soon I found myself seconding his efforts, first at home, and then in a little broader field, and finally the effects of his labors with one single individual, have gone clear into *your* home, dear reader, through the medium of these Home Papers, and if they have been instrumental in stirring to activity the soul of one single brother or sister in this broad land, I shall feel that the Master has indeed, some message for us all to deliver to some one else.

Notes and Queries.

ONE word about my selling bees from advertising; last fall I advertised in 3 papers 100 swarms at $5. and $6. I paid out $8. and sold 27 swarms, so you see they do not sell very fast even at that price. One question; how much more are bees worth in the spring that have wintered well, than in the fall? I am wintering in three different ways; in cellar, in trench, and in chaff. The best chaff, is clover I think. ALBERT POTTER.

Eureka, Wis., Dec. 23d, 1876.

[I would suggest that we call a swarm of bees worth ½ more, the first of May, than they were the fall previous. To illustrate, we will call a good colony of Italians worth just before the honey season, $15.00, and but $10.00 after the honey season is over, At this price they should be well provisioned for winter; without, say $7.50.]

I received your extractor on the 10th of June. I began the season with 10 colonies, increased to 19 and took 1268 lbs. extracted and about 250 lbs. of box honey. All the honey that I did not consume, except 150 lbs., I sold at from 22 to 30 cts. My bees are mostly Italian. I use the Quinby suspended frame, my object is to double my stocks, keep my bees in the best possible condition, and secure the greatest possible amount of first-class extracted honey. Shall I build double width or two story hives? [The latter.] With 8 frames in lower story would 10 frames in an upper story made large enough, be of material advantage? [We think not.] In ripening honey after it is taken from the hive, is it best done in a deep or shallow vessel? [Shallow.] Will it be best to keep the vessel standing in hot water or near, or on the stove?

HENRY KULP, Hilliard, O., Jan. 19th, '77.

[Either way will answer but if the latter be careful about overheating.]

Will you allow the discounts named on fdn., if the amount bought before July 1st in the aggregate reaches 50 or 100 lbs.? [Yes.] What heft is best for surplus boxes and for brood chamber? [Thinnest with good walls.] Will bees rear brood in it as readily as in natural comb? [Disputed questions, altho' we can not see that *our* bees make any difference.] Is there any perceptible difference between surplus honey in frames or boxes furnished with fdn., and those constructed entirely by the bees?

J. B. HAINS, Bedford, O., Feb. 16th, '77.

[We think no one would discover the difference, unless it was pointed out to him. With the very thin fdn. produced by our machines, we think we can defy experts, to tell one from the other.]

Is it a fact that Mr. Harbison only realized, after deducting all expenses, including interest on capital, $1,000 net profit, on 100 tons of honey? This would be only 33⅓c. per colony. I think it must be a typographical error, and should read $10,000. If not, I prefer to remain where I can realize more profit per investment. Was his honey all extracted?

B. F. DAVENPORT.

Auroraville, Wis., Dec. 28th, 1876.

[We believe Mr. H. gave it as you have stated. If we are correct, the greater part was comb honey stored in Harbison frames.]

I have examined two stocks of Italian bees to-day: one with 35 lbs. of honey and the other 45 lbs. Sealed brood in one frame, and the two adjoining frames contain larvæ in abundance. I also find those that are packed all around with bran cushions have consumed 50 per cent. less honey. J. B. DINES.

Libertyville, St. Francois Co., Mo., Jan. 15, 1877.

I have lost 10 or 12 colonies, and I fear the worst has not come yet. Of one thing I am sure: it will not pay to raise queens late in the fall. I ran several colonies up to the middle of September, and have lost all of them. I was thinking all the while I would unite them, but owing to the press for queens, I was too late about it. J. B. BRAY.

Lynnville, Tenn., Jan. 17, 1877.

I was glad to get your advice in regard to a beehive, as I made the same mistake last spring, in buying the right to make and use the Climax hive, which I now suppose has been out of use for the last 10 years. After I got it I did not make a single one after the pattern, but modified it to my own notion. I have 5 of them with bees in, but they do not suit me; and the object of this letter is to ask your advice in regard to a hive to adopt. If you can, send a hive on a small scale, so that I can *see* how the whole thing is fixed, all right, as I have no more money to throw away for a useless thing. My idea is to *see* the thing ready for work, rather than to see it on paper. [We furnish a cover and body and one frame in a bundle, for 80c., which is cheaper than we could possibly make a small model.] Do you recommend artificial swarming? [If you wish increase of stock, not otherwise.]. Would you advise buying one of those dollar queens? [Most certainly; if they prove pure, they are worth $3.00, and they are worth a dollar in any case.]

W. I. BRIGHT, M. D.

Dumontville, O., Jan. 23d, 1877.

I have got to move my bees this spring about a mile; how shall I prevent them from going back to the old place? Will it do to move them in a lumber wagon over a rough road? Do you know of anybody in the State of Michigan that has got any more honey per colony from their Italian bees than I did from my blacks, last season? I secured 1850 lbs. from 14 stocks in spring and their increase; increased to 37, mostly by natural swarming. I did not allow any stock to swarm but once, except when they followed the young queen out, and then I invariably returned them to the same stock. How do you think a brick cellar would do for bees? Say lay a brick bottom on the ground, and then build up and arch over and cover with earth or straw? D. GARDNER.

Carson City, Mich., Mar. 7, 1877.

[Had you moved the bees before they had flown in the spring, you would have had little or no trouble, and it will probably be best to wait until after several cold stormy days, even now. If they *do* come back very much, leave some of the weakest stocks until the last, to catch the returning bees. We fear you will hardly succeed without considerable loss. Put considerable straw in your wagon, drive slowly, and you can move them thus very well. Your yield was very good indeed for common bees, but nothing extra for 14 hives of Italians. Was it comb, or extracted honey? The brick cellar, we fear, would be damp, in spite of all the ventilation you could give.]

[Truly a friend in need, is a friend indeed; listen!

MOVING BEES, AND STANDS FOR HIVES.

I see you recommend moving bees 2 or 3 miles, and then bring them back after a few days, or move them a few feet at a time. I used to do that way, but now, when I want to change the location of a stand, as in transferring, or from any other cause, I reduce the colony to the condition of a swarm by driving it in box hive or shaking the bees from frames and letting them cluster in a box, and then giving them their combs or the combs of another hive. After they are quiet in their new location, I have no trouble with bees returning to old locations, and I have moved them in this way from 20 yards to one-half mile. I use a stalk of broom-corn to brush bees from combs; and for a stand for the hive, nothing suits me better than 4 half bricks, before you put down the sawdust; two laid flat and two on edge, if you wish the hive inclined a little. For the two-story hives, with one whole brick under the back end you can level the hive easiest. GATEPOST.

I have not been able to get my money out of N. C. Mitchell as yet. Do you think I will be able to make him pay me? JAMES MCCOOK.

Natchitoches, La., Mar. 1, 1877.

[We should be very glad indeed to be able to say there seemed a prospect of Mitchell's keeping his promises, but at present there seems to be nothing left for us to do but to prevent his wronging other people in the same way.]

The 1000 sections received, and I think you deserve much credit for the manner in which they are put up and packed. I am very much pleased with them and hope to want enough for 6000 lbs. the coming season. Bees all right so far in tip top order.

J. BUTLER, Jackson, Mich.

I have 74 swarms of bees in cellar doing well. Took 1800 lbs. of honey in sections, and 200 lbs. of extracted. Started with 45 last May. C. KENDIG.

Naperville, Ill., March 8th, 1877.

Would like to know if bran is as good as chaff for cushions. J. B. DINES.

Libertyville, Mo., Dec. 21st, 1876.

[We presume coarse bran will be equally as good as chaff, but with us it is considerably more expensive.]

On fine sunshiny days my bees come out and drop on the snow and die by hundreds. What can I do to prevent it? My bees are the common kind.

J. J. WHITE, Clinton, Mich., Jan. 23d, 1877.

[Can only repeat; keep the hives so well covered with chaff or something similar, that they will not warm up until pleasant warm weather.]

GOOD AND BAD TEACHING.

In 1873 on the 18th of July my son found a swarm of bees, nearly pure Italians, on a little plum bush. He put them into an American hive with empty frames. In two weeks the hive was filled with nice white comb and honey, and in three weeks that very valuable queen took a swarm to the woods. Now what was lost for the want of a little practical information such as GLEANINGS gives. Under

Doolittles's management from 40 to 80 lbs. of comb honey worth 25c. and a valuable swarm $10. I am an old man and have no time to experiment, but want to follow the beaten track that others have found successful. I wish to say a few words about Hosmer. His teachings ruined all who followed them. His wintering was a failure. With perfect cellars his example would have been less ruinous, but nobody had any such cellars then. Now I think I have one. We shall see. J. A. KING.

Janesville, Minn., March 8th, 1877.

Saw rec'd and works good, can run it all day long day after day and not want to go a visiting.

CHAS. H. RUE, Manalapan, N. J., Mar. 13th, '77.

[The saw mentioned was sent on approval, and while we are very much pleased indeed to hear such an excellent report of it, we feel it a duty to say that many find it pretty severe exercise to saw all day. We think, friend R., you must have unusual muscular strength, besides a knack of keeping your saw in nice cutting order.]

WHAT A BOY OF 12 DID.

In '73 I had one hive of bees in the spring and they threw off a good swarm in July, and from the two I got $25. worth of honey, and sold the bees in the fall for $15. I was then 12 years old, being 16 now, and father and I have got 36 swarms in the cellar; that is both of us together. We went into partnership last spring on bees. I am his boy yet, but he encourages us to do business on our own account. I would like to know how you keep the queen from going up into the upper story and laying eggs, for I am making a new hive. I am going to set one on top of another and fill the upper set of frames with sections. WALTER D. STORK.

Belle Valley, Pa., March 8th, 1877.

[May much happiness and prosperity attend the partnership of father and son, and may more sons and fathers do likewise. Use rather small sections, and tin separators, and we think you need not fear the queen.]

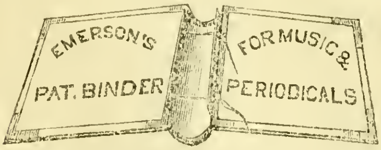
$1.00 Will secure you, Neatly Printed **250** No. 5, XX Envelopes, and we furnish **250** Note Heads also Neatly Printed for **$1.**
All Postpaid. A. H. PEAKE, Medina, O.

E. W. HALE'S

Price List of Bees, Queens, Etc., for 1877.

1 Full colony .. .. with tested queen.......	$13 00
1 three frame nucleus " " "	5 50
1 " " " " dollar "	4 00
1 tested queen..	2 50
1 untested "	1 00

A discount of 10 per cent will be made on all orders of more than $10.00 each. All my queens are raised from *Imported Mothers*, I only guaranteeing the safe arrival *of all tested queens* within 1000 miles. The money must accompany each order, and all orders will be filled strictly in rotation. My location enables me to furnish queens much earlier than parties farther north. Address,
2-10d E. W. HALE, Wirt C. H., W. Va.



You cannot look over the back No's of GLEANINGS or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said— "Dear me what a bother—I *must* have last month's Journal and it's no where to be found." Put each No. in the Emerson Binder as soon as it comes and you can sit down happy, any time you wish to find any thing you may have previously seen even though it were months ago.

Binders for GLEANINGS (will hold them for four years) gilt lettered, free by mail for 50, 60, and 75c, according to quality. For table of prices of Binders for any Periodical, see Oct. No., Vol. 2. Send in your orders. A. I. ROOT, Medina, O.

ITALIAN BEES.

Imported and home bred queens; full colonies and nucleus colonies; bee-keeper's supplies of all kinds, Queens bred early in the season. Send for catalogue.
9tf DR. J. P. H. BROWN,
Augusta, Ga.

I have just purchased latest improved machinery and can promptly furnish

Pure Beeswax Comb Foundation.

at the following low prices. Made from Yellow Wax, 70 cents per pound; White Wax, $1.00 per pound. Packed in light, wooden boxes—paper between the sheets. At above rates, the sheets will be cut to any desired size. Ten per cent. discount will be given on 50 pounds or more.

Wax delivered here, will be worked up for 40 cents a pound or for half the wax and 6 cents a pound on your share.

Highest cash price paid for pure wax. All Freight or Express charges to be paid by the purchaser. If ordered by mail, add 25 cents per pound to above prices. Samples by mail 10 cents. Enlarged Bee Circular ready April first. J. H. Nellis.
Canajoharie, N. Y. 3-5

DESCRIPTION AND PRICES

Of Hives and best Sectional Honey Boxes free. Carpet Stretcher and Tack Holder Combined. Sample by mail 30c. Agents Wanted. 3-4 BARKER & DICER, Marshall, Mich.

ITALIAN QUEENS FOR 1877.

Queens bred from Imported or home bred stock. Safe arrival guaranteed. Will send you every time just what you order.

Unwarranted queen............................	$1 00
" " per doz....................	11 50
Warranted "	1 50
" " per half doz..............	8 00
" " per doz..................	14 00
Tested " before July 1st..........	3 50
" " after " ".........	2 50
" " " " " 4 for.....	9 00
" " " " " per doz..	20 00
2 frame nucleus (frame 11x12) and tested queen after July 1st............................	5 00
5 same..	20 00
Same and unwarranted queen..................	4 00
5 " "	17 00

2tf J. OATMAN & CO., Dundee, Ills.

W. C. GILLETTE. Leroy, N. Y., Breeder of Pure White Leghorn Fowls. Eggs $2.50 per dozen. SATISFACTION GUARANTEED. Will exchange for a few Stocks of Bees or Nuclei. 3-5

A Good Offer.—Bee Hives, Frames, Surplus Boxes—any style—cheap. Italian Queens *given* to our Patrons. For particulars of our plan, Prices, Etc..
Addderss J. H. MARTIN,
3-4pd Hartford, N. Y.

COMBS.

In the Standard Langstroth frame at 25 cents each. My former partners having quit the bee business, we have a quantity of good combs at above price. Also a lot of two year old Osage Orange hedge plants at $2,00 per 1000 or less according to quantity ordered.
4td Address F. T. NUNN, Peru, Huron Co., Ohio.

100 COLONIES ITALIAN BEES FOR SALE

At $7,50 Per Colony.

1tfd M. PARSE, Pine Bluff, Ark.

Improved Quinby Smoker.

Quinby's "Bee-Keeping Explained." Box material for as practical a box as can be made. Glass cheaper than ever before. Queens, Hives, Colonies, Extractors, Clasps, Bee Veils, etc.

Send for Illustrated descriptive Circular. L. C. ROOT,
Mohawk, Herkimer, Co., N. Y.
4tf

Full Stocks of Yellow Bees for Breeding or Honey,—as good, as cheap as any. W. F. B. Spanish Hens' Eggs for hatching. 23 years in perfecting their non-sitting. Warranted not Excelled.
4 J. M. MARVIN, St.Charles, Kane Co., Ill.

BEFORE PURCHASING

Supplies for your Apiary, send a Postal Card for our Price List of Hives, Frames, Sectional and other Boxes of any desired pattern. Comb Foundations, Metal Corners and Tested and Untested Queens from Imported mother.
J. C. & H. P. SAYLES,
3-8d Hartford; Wis.

THE
British Bee Journal,

Is a large, beautifully printed, and profusely illustrated MONTHLY; clear type and fine heavy paper. It is conducted by CHARLES NASH ABBOTT, Hanwell, W., London, England. Annual subscription, half-a-guinea.

We will send it with GLEANINGS and pay all postage for $2.50.

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our tenth edition circular found in April No., Vol. V., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required*.

Canada postage on *merchandise* is limited to 8¾ oz., and nothing can be sent for less than 10c.

	Bees, full colony amply provided for winter, in our new two story, chaff hive (described Nov. and Dec. No's., '76), tested queen from imported mother, safe arrival guaranteed..(Lawn hive $1 more.)	$15 00
	The same in a 1 story Simplicity hive	13 00
	The same in old style L. hive with portico, etc	12 00
	The same with hybrid queen	10,00
	The same not provisioned for winter	7.00

We think we can prepare bees for shipping safely any month in the year; when we fail in so doing, we will give due notice.

0	Binder, Emerson's, for GLEANINGS	50, 60. 75
	Balances, spring, for suspended hive (60 lbs)	8,00
10	Blocks, iron, for metal cornered frame making	15
	Barrels for honey, $2.50 ; waxed and painted	$3,50

Buzz-saw, foot-power, *complete*; circular with cuts free on application. Two saws and two gauges included. $35 00

0	Buzz-saws. extra, 6 in. 1.50; 7 in.. 1.75; 8 inch..	2 00
60	Buzz saw mandrel and boxes complete for 6 inch saws	5 00
	The same for 7 and 8 inch saws (not mailable)..	8 00
	Comb Foundation Machines complete....$30 to	100 00
60	Chaff cushions for wintering	30
25	Chaff cushion division boards	20

Half price without the chaff, and postage 5 and 9c.

20	Candy for bees, can be fed at any season, per lb.	17
20	Corners, metal. per hundred	75
25	" " top only	1 00
15	" " bottom, per hundred	50

On 1,000 or more a discount of 10 per cent. will be made, and on 10,000 25 per cent. The latter will be given to those who advertise metal cornered frames.

	Corners. Machinery complete for making	250 00
30	Clasps for transferring, package of 100	25
0	Cards, queen registering, per doz	10
2	Cages " all of metal	10
2	Cheese cloth, for strainers, per yard	10
12	Duck, for feeding, and covering the frames—bees do not bite it—per yd. (29 inches wide)	20
	Extractors, according to size of frame $7 50 to	10 00
	" inside and gearing, including honeygate	5 00
	" wax	3 50
7	Feeders, 1 q't, tin, can be used without opening the hive, in warm weather—neat and simple	10
25	The same, 6 qts, to be used in upper story...	50
4	Frames with Metal Corners	05
5	" " Sample Rabbet and Clasps	10
10	" Closed end Quinby, nailed	05
0	GLEANINGS, Vol's I and II, each 75c., Vol IV	1 00
0	" Vol. III, second-handed	1 50
50	Gearing for Extractor with supporting arm..	1 50
20	Gates for Extractors tinned for soldering...	50

SIMPLICITY BEE-HIVE.

One body and 1 cover in the flat, as sample to work from—one sample frame included.............. 80

One story hive for extractor (body 50c—2 covers 60c—nailing and painting 20c—quilt 25c—10 frames 60c—crating 10c).............................. 2 25

One story hive for comb honey is precisely the same as the above, substituting 2 frames of sections for 4 metal cornered frames....................... 2 25

The above 16 sections will be fitted with fdn., and starters ready for the bees, for 15c, and the tin separators added for 10c, making whole complete....... 2 50

The above two hives contain everything used in a 2 story hive. We simply use another body filled with frames or sections, for a 2 story hive.

For a 2 story hive for the extractor, add (to 1 story 2 25) body 50c—nailing and painting 10c—10 frames 60c—crating 5c, making complete 2 story containing 20 frames.............................. 3 50

For a 2 story hive for comb honey add (to 1 story 2 25) body 50c—nailing and painting 10c—6 frames of sections 78c—1 metal cornered frame 6c—crating 6c, making complete 2 story containing 7 frames and 64 sections.............................. 3 75

If filled with fdn. starters 60c—if also filled with tin separators 40c, making $4 75, if two latter items are wanted.

To prepare the above hives for winter, put in place of the 2 outside frames chaff cushions, price 20c each, and a thick one on top 30c.

Iron frame to gauge size of above hives, and to hold them true when nailing, size 20¼x16 inside............ 75

	CHAFF HIVE FOR OUT DOOR WINTERING, 10 frames below, and 14 frames or 80 section boxes above, well painted and finished complete ....(Lawn hive $1 more.)	$5 00

These hives, if supplied with stores, will, we hope, need no attention whatever, from the time honey ceases until it comes again the next season.

0	Knives, Honey (½ doz. for $5.25, or $5 by Exp.)	1 00
	Labels for honey, in blue and gold, dark bronze and gold, or in white printed in two colors, furnished with your own address, and source from which the honey was gathered, already gummed, post paid by mail, (no order rec'd for less than 250). At these low rates, the full number mentioned *must* be ordered without the change of one single letter of the type	1000, $3,25 ; 500, $2,40 ; 250, $1,80
0	Lithograph of the Hexagonal Apiary	25
	Lamp, Nursery for hatching queen cells as built	5 00
0	Larvae, for queen rearing, from June to Sept.	25
15	Microscope, Compound, in Mahogany box...	3 00
0	Prepared objects for above, such as bees' wing, sting, eye, foot, etc., each	25
0	Medley of Bee-Keepers' Photo's, (150 Photo's)	1 00
0	Magnifying Glass, Pocket	60
0	" " Double lens, brass, on 3 feet	1 00
7	Muslin, Indian head, for quilts and cushions per yard, pretty stout, but not good as duck.	10
	Parafine, for waxing barrels, per pound....	20
0	Photo. of House Apiary and Improvements..	25
2	Rabbets, Metal per foot	02

SECTION BOXES IN THE FLAT, PER 1,000.

Any dimensions not exceeding 2x5x5.................. 10 00

The above is 50 cubic inches; for larger sizes add 10c per 1,000 for each additional cubic inch or fraction of an inch, outside measure.. Extra prices for less than 500.

	Just right to fit in L. frames, 2x4¼x4¼	9 50
85	These are put up in packages (of 64 each) containing just enough for a 2 story hive, 8 to the frame..	60
	Sample by mail with fdn	5

If the grooving for holding the fdn. is omitted, 25c less per 1,000. Sections weigh from 7 to 10 lbs per 100.

10	L. frame made 2 inches broad to hold 8 sections	5
25	The same with 8 sections	13
25	The same furnished with fdn. starters all ready for the bees	20

Adding tin separators to either of the above will increase the price 5c, and the postage 6c.

4	Section boxes, fancy, hearts, stars, crosses, etc. each	5
3	Sheets of duck to keep the bees from soiling or eating the cushions	10
0	Scissors, for clipping queen's wings	40
18	Seed, Alsike Clover, *raised near us*, per lb...	25
18	" Summer Rape. Sow in June and July.	15
0	" Chinese Mustard, per oz	25
18	Mignonette per lb. (20c. per oz.)	1 50
18	Mellilot. or Sweet Clover, per lb	1 00
18	Silver Hull Buckwheat	10
10	Smoker, Quinby's (to Canada 15c extra)	1 50
5	" Doolittle's	25
2	Tacks, Galvanized	10
3	Thermometers	40
0	Veils, Bee, with face of Brussels net, (silk)..	75
0	The same, all of tarletan (almost as good)...	50
5	Wire Cloth, for Extractors, per foot	15
3	" " Queen Cages	15

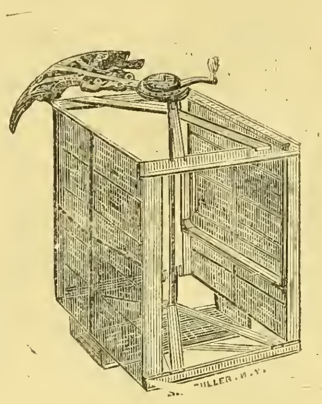
Wire-cloth is tinned, and meshes are 5 and 18 to the inch

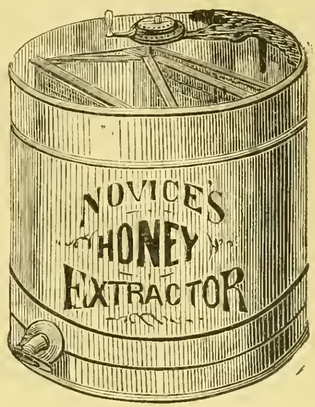
All goods delivered on board the cars at prices named.

☞ We will pay $1.25 cash, for Vol. III. A. I. ROOT.

PRICES OF EXTRACTORS:

For Gallup frame, $7,50; American frame $7,75; Adair frame, $8,00; Langstroth, $8,00; Quinby, $9,00. No knife included at these prices. All the above sizes kept constantly on hand ready to ship.





Our Honey Knife, Price $1,00, post-paid, is made of fine steel, nicely finished, with a thin keen edged blade that needs no hot water or any such "fussing" to make it uncap nicely.

ADVERTISEMENTS.

Advertisements will be received at the rate of ten cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

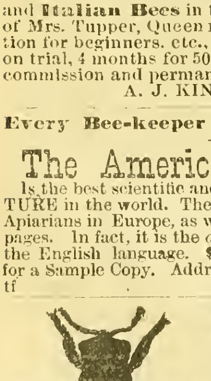
THE BEE-KEEPERS' MAGAZINE, an illustrated monthly journal of 32 octavo pages, devoted exclusively to bee-culture; edited by ALBERT J. KING, containing contributions from Mrs. Ellen S. Tupper, and experienced bee-keepers in America and Europe. A large space is devoted to beginners, giving useful information just when it is most needed throughout the year. Terms, $1.50 per year. The Bee-Keepers' Text-Book in *German or English*, and the Bee-Keepers' Magazine one year $1.70. A 64 page pamphlet (price 50c) containing a beautiful life-like **Chromo** of **Honey-Plants** and **Italian Bees** in their natural colors, with prize of Mrs. Tupper, Queen rearing by M. Quinby, instruction for beginners, etc., sent *free* with the Magazine, on trial, 4 months for 50 cents. Agents wanted—cash commission and permanent employment. Address

A. J. KING & CO., 61 Hudson St., N. Y.

Every Bee-keeper should subscribe for it.

The American Bee Journal

Is the best scientific and practical Journal of APICULTURE in the world. The most successful and experienced Apiarians in Europe, as well as America, contribute to its pages. In fact, it is the *oldest* and *largest* BEE PAPER in the English language. **$2.** Per Annum. Send a Stamp for a Sample Copy. Address THOMAS G. NEWMAN,
tf 184 Clark st., Chicago, Ill



QUEENS From The SOUTH.

Italian queens furnished the coming season at the following prices:

1 tested queen............	$3 00
6 " "	15 00
1 untested queen.......	1 00
6 " "	5 00
Full colonies in Langstroth hives........................	12 50

☞Safe arrival of *all queens* guaranteed.☜

Purchasers must assume all risk in the transportation of full colonies.

As prompt attention as possible will be given to all orders, and *satisfaction guaranteed.*
2tf RUFUS MORGAN, Old Fort, N. C.

Averill Chemical Paint.

THE *ONLY* RELIABLE.
THE *MOST* BEAUTIFUL.
THE *MOST* ECONOMICAL.
THE *MOST* DURABLE.

Requires no oil thinner or drier,
Requires no waste of time in mixing,
Has stood *eight years' criticisms*
With *yearly increased popularity*
And *yearly increased* sales.

Is sold by the gallon only, in packages of from 1 to 40 gallons each, in Purest White and any Color or Tint desired.

Address, for sample card of colors and price list,

Averill Chemical Paint Co.,
Office and Factory 132 & 134 East River Street,
CLEVELAND, OHIO. 6-6-'77

Catnip Seed for Sale

At 40 cents per ounce. $4.00 per Pound. Postpaid.
WM. R. EDWARDS,
4 Skaneateles, N. Y.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 10c. each insertion, or $1.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 10c. each insertion, or $1.00 per year.

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, safe delivery, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If wanted by mail, send 10c. extra.

*C. C. Vaughan, Columbia, Tenn.	3-8
*Wm. W. Cary, Colerain, Franklin Co., Mass.	3-2
*G. W. Dean, River Styx, Medina Co., O.	
*J. Oatman & Co., Dundee, Ill.	1-12d
*E. W. Hale, Wirt, C. H., West Va.	6-6
*J. M. C. Taylor, Lewiston, Fred. Co., Md.	1-6
*Dr. J. P. H. Brown, Augusta, Ga.	9tf
*Albert Potter, Eureka, Wis.	1-12
*Wm. J. Andrews, Columbia, Tenn.	2-2
*Hardin Haines, Vermont, Fulton Co., Ills.	2t4
*Aaron J. Weidner, Bigler, Adams Co., Pa.	4-9

Probably the first of June will be as soon as they can be furnished; those who want them sooner, will have to take higher priced ones.

Hive Manufacturers.

A. I. Root, Medina, Ohio.	
M. S. West, Pontiac, Mich.	6-5
Geo. W. Simmons, Newark, Del.	1-12
Isaac L. Parker, McMinnville, Warren Co., Tenn	3 2

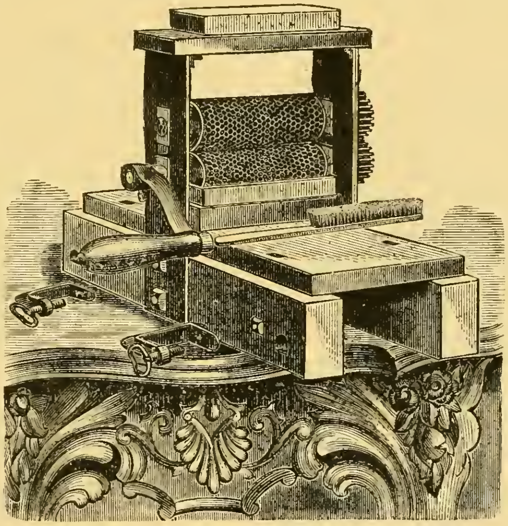
GLEANINGS IN BEE CULTURE

Devoted to Bees and Honey,

And Peace on Earth and Good Will toward Men.

PUBLISHED MONTHLY, AT MEDINA, OHIO,
BY A. I. ROOT.

Vol. V May, 1877. No. 5



Our $30.00 Comb Foundation Machine.

We are accustomed to thinking beeswax a very soft substance, and one would think that but little power would be required to roll it into fdn., yet, to make good fdn., with high, clear, sharp walls, the strain is so great as to spring the heavy metal rolls considerably, especially when we use rolls 12 inches long. For the latter we are also obliged to have the diameter greater, and to employ the large gear-wheel to get power, otherwise we should find a man would hardly have the strength to make good work. With the small machine shown above, we can use a smaller roller, and a crank attached directly to the rolls, and yet produce perhaps more perfect and delicate work than with the large machines. The price we have fixed is so low that we find it quite difficult to make them pay expenses, and we may be obliged to raise it ere long. We cannot send out the machines on trial, for enough should be made up during the trial to supply a whole neighborhood; but we guarantee the machines to give perfect satisfaction.

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WE have 1819 readers to make glad by our coming this month, and we *really* hope we have succeeded.

WE regret to be obliged to chronicle the death of friend Nesbit, of Cynthiana, Ky. He died very suddenly of heart disease His work with bees is over, and no more shall we receive his genial, hopeful, and encouraging letters. To-day we are busied with the cares of this life, but to-morrow! Who can tell what the morrow may bring forth?

WE have sold $250,00 worth of bees out of the 100 reported last month, and have 75 good colonies left. Is not that a little better than the reports we have been in the habit of making for the month of April? An income from bees in the spring, is certainly quite a pleasant thing to have. Hurrah for the chaff cushions, and many thanks to friend Townley.

WANTED—Immediately, situation by a bee-keeper. Northeastern Ohio preferred. Address, stating terms, "B," 59 Adams Ave., W., Detroit, Mich. 5

FOR SALE.

On account of failing health, I offer for sale one of Barnes' Foot-Power Circular and Scroll Saws for the sum of $30,00, original cost $40,00. Has been used but little and is in perfect order.
5 E. KIMPTON, M. D., Cedar Creek, N. J.

QUEENS. Tested and untested, bred from my choice lot of imported mothers received from Italy last fall. Safe arrival by mail guaranteed at low prices. Satisfaction guaranteed. Circular free.
5d J. M. C. TAYLOR,
Lewistown, Fred'k Co., Md.

WM. W. Cary. Colerain, Franklin Co., Mass. Sixteen years experience in Propagating Queens direct from imported mothers, from the best district in Italy. Persons purchasing Queens or Swarms from me will get what they bargain for. Send for circular. 3 in q.

BEFORE PURCHASING

Supplies for your Apiary, send a Postal Card for our Price List of Hives, Frames, Sectional and other Boxes of any desired pattern. Comb Foundations, Metal Corners and Tested and Untested Queens from Imported mother. J. C. & H. P. SAYLES,
3-8d Hartford; Wis.

Glass for HONEY Boxes.

In strips 6x20 or 5x6 $2.50 a box of 50 feet. COMB FOUNDATIONS of *Pure Yellow Wax* in strips 5 in. wide 70 cts per lb. The foundation is made by a machine purchased from A. I. Root, which works admirably. C. R. ISHAM, Peoria, Wyoming Co., N. Y. 5

SOUTHERN BEE RECORD.

Having received a number of letters requesting me to start a Southern bee paper, I have concluded, provided I meet with sufficient encouragement, to do so. Those who are willing to subscribe to such a Journal are requested to send me their names. No remittance is asked until the receipt of the first number.
Subscription $2.00 per annum.
WM. J. ANDREWS, Columbia, Tenn.

Choice Seeds!

Bee-keepers and all others who desire to purchase seeds for the farm, apiary, nursery, flower or vegetable garden; agricultural or apiarian implements, supplies, &c., should send for our new descriptive catalogue. Price list free. Address, carefully,
C. F. LANE'S N-W Apiary and Seed Warehouse,
4 Koshkonong, Wis.

REMOVAL.

The Brooks Bro's. have removed their Apiary *from* Columbus to Elizabethtown, Ind., and would be pleased to send you their new circular. Send for it before purchasing your queens or bees.
Address, J. M. BROOKS & BRO.,
4-9 Elizabethtown, Ind.

ITALIAN BEES FOR SALE,

Great Reduction in Prices.

Mrs. Adam Grimm will sell, and ship between the 1st and 20th of May, 1877, the remainder of her bees, amounting to about 450 Good Colonies, at the following prices:

Pure Italians, from 1 to 5, each Colony		$8 00
" " " 5 to 10, " "		7 50
" " " 10 to 20, " "		7 00
" " " 20 to 100 " "		6 50
Hybrids descending from Pure Italians,		
1 to 20, each Colony		6 50
20 to 100, " "		6 00

Safe arrival guaranteed if ordered in lots of less than 25.
Being appointed administratrix of the estate, I must sell said bees this spring, as the estate will be settled within a year. MRS. ADAM GRIMM,
3—5 Jefferson, Wis.

MUTH'S ADVERTISEMENT.

HONEY JARS!

One pound (square) jars, per gross	$6 00
Two " " " "	8 00
One " " " flint glass per gross	8 50
Two " " " " " "	10 50
Corks for 1 and 2 pound jars	75
Tin foil caps, per gross	1 20
Labels " "	75
A thousand labels address printed to order	5 00
One qt. fruit jars, Mason's patent, per gross	17 00
Labels for same, " "	65
A thousand labels address printed to order	1 00
Uncapping knives, as good as any, each	50
" " per dozen	4 50
Alsike clover seed, per bushel	13 50
" " " " peck	3 50
" " " " pound	40
Catnip seed, per pound	6 50
" " " ounce	50

Langstroth Bee Hives,
Straw mats, bee vails etc., at reasonable rates.
For further particulars, address
CHAS. F. MUTH, Cincinnati, O.

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

Vol. V. MAY 1, 1877. No. 5

A. I. ROOT,
Publisher and Proprietor,
Medina, O.

Published Monthly.
Established in 1873.

TERMS: $1.00 Per Annum in Advance; 3 *Copies for* **$2.50; 5** *for* **$3.75; 10** *or more, 60c. each. Single Number* **10c.**

HOW I INCREASED 2 COLONIES TO 34 IN ONE SEASON.

I USE the Standard hive, tight bottom. The entrance I keep small to keep them warm and on top I use a cotton padded quilt. Above this is a box 2½ inches deep that fits closely inside the hive with a cloth on the bottom about one inch larger than the box, to tuck down to stop cracks if need be. Said box is filled with fine sawdust such as comes from my saw-mill for making hives, and to this sawdust box I attribute most of my success. It keeps them warm and nice. so that a few bees can nurse a great many larvæ. Thus I raise my bees.

The next point is to have all the bees employed raising brood. (It don't take so many bees to raise brood as it does to raise brood and store honey too.) To secure that point, just as soon as the hive has bees enough to nurse all the eggs the queen can lay, draw off a few for a nucleus, which of course is tucked up warm and contains a piece of comb having eggs or larvæ for queen raising, that they may spend all their FORCE on the queen cells. But now mark, after the queen cells are capped over, they have nothing more to do till the queen is hatched and has commenced to lay. IT WILL NOT DO TO HAVE LAZY BEES. So as soon as the queen cells are capped over, give them a card of hatching brood containing as many eggs and larvæ as you think they can care for. Now as the hatching brood will want something to do, in 4 or 5 days put in more cards of hatching brood and larvæ. And so by the time your queen is fertilized you have a stock strong enough to care for all her eggs. Thus my stocks were made.

Of course I cut out queen cells to build or start other nuclei. This was done as near the time of hatching as possible, as they are not as tender then. The third point is to save all the queens in their first flight. Year before last I lost heavily. Last year I saved them all. H O W? I tacked bright colors on the front of the hive in this way: I cut two strips of green pasteboard and tacked them on to one hive in the shape of the letter *T*. I covered the whole front of another with a piece of flowered red shawl. To the third I tacked a piece of bright red paper such as is wrapped round bars of soap; having all bright but very different. Thus I saved my queens. And it paid, even if they did cost only the labor of a few bees five days at the beginning of nucleus life.

I managed to just double my stands each time. Thus I started with two. I then raised two queens, started two nuclei and by the time they were ready to lay, they were in strong stocks, so that now I had 4 to draw frames of brood from to build up the next 4. By doubling only 4 times I reached 32, but as I had combs for 34 and the millers were beginning to trouble I crowded to that number.

Let me say that one of the queens I started with, filled a 20 frame New Idea hive full, notwithstanding the *many, many* drafts I made on her for brood. She seemed to realize my necessity and spread herself for the work. She was worth to me $100 last year. To repeat:

First. The SAWDUST BOX, long may it wave.
Secondly. No lazy bees in nuclei.
Thirdly. Save your queens even if they cost a few bees only five day's work.

The bees I started with were hybrids. Went in Nov. 1st, and all came out April 4th bright as a dollar, every one. After a fly I put the lightest back

Can you box hive men beat that? If you can, say so, if not, forever hold your peace.

DR. C. M JOSLIN.

St. Charles, Mich., April 9th, '77.

The idea of keeping the bees all busy during the working season is an excellent one, and a good queen will furnish eggs for a large number of nuclei, if it is rightly managed Do not take combs from her hive containing the brood, or you will weaken her colony, but spread the combs and put an empty comb in the centre just long enough to get as many eggs as you think your nucleus can care for. Every nucleus should have eggs at all times, even before their queen cells are capped, for after the queen cells are once started, they will be sure to hatch before those that may be started from the eggs. In using cells, be careful not to get the latter, if the eggs were not from your best stock. The advantages to the nuclei by so doing, will be that they are always kept in thriving condition, and are constantly being built up, besides avoiding all trouble with swarming out when the queen takes her flight. If this were made a rule in the apiary, fertile workers and queenles stocks would be almost unknown. The idea is, that by taking just eggs from a colony, we deprive them of but little compared to removing frames of both eggs and brood. The chaff or sawdust packing, is certainly a very important matter. Our own apiary is far in advance of what it has ever been before, through their agency, and we have wintered less than a quart of bees in the house apiary and had them increase almost all winter long, by the help of the chaff cushions. Our friend probably succeeded so well, by taking careful precautions against failures and mistakes of every kind. This is the great secret of successful bee culture.

UNITING BEES.

I WANT the worth of my money in, how to unite bees. I have been more unsuccessful in this operation than in anything else connected with the apiary.

MRS. L. HARRISON, Peoria, Ills.

Occasionally bees when not gathering honey, will when united sting each other to death, yet we have had but few cases of the kind. New swarms will unite peaceably, we believe always, for one queen is soon killed. We have no trouble in uniting bees after cold weather, by simply lifting the combs out of one hive, bees and all, and setting them in the other hive. If a warm day ensues very soon after, many of them go back, but otherwise we have no trouble. When the colonies were small we have put both in one hive a little distance apart, and moved them up only when they became acquainted. They will sometimes, if both queens are allowed them, work together for weeks, but when united as they are of the same scent, there will be no quarreling. When the colonies are both pretty strong, or if their honey is scattered through the whole ten combs in each hive, we frequently place one over the other, obliging them all to use the same entrance. This has always worked finely, and we would soon find the honey all below, and remove the empty frames. When colonies are near each other, we often shake the bees all in front of one hive and let them run in like a natural swarm. If the new-comers are attacked, we give them such a smoking that they are glad to be peaceable on any terms. If the old hive is now taken completely away, they generally find their new home without trouble. If the bees from both hives are shaken on the ground in a heap, and their combs given them, there is seldom any trouble about their quarreling. Whatever method is adopted, if we have a smoker at hand, and give them a severe smoking as soon as they begin to "misbehave," there will be very little danger of trouble.

INTRODUCTION OF QUEENS.

THERE seems to be no perfectly safe plan. All rules fail occasionally, and sometimes when we are most anxious that they should not. Last fall I received a nice queen from Nellis, of New York, and in introducing her, by the best rules I knew of, she was killed. Prof. Cook, of Mich., an experienced bee-keeper, tells us he received a $10. queen of Dadant and lost her in introducing. These are not exceptional cases. A few only are reported, while hundreds are not. To receive queens from friends and distant apiaries and then have them lost in introducing is annoying to say the least. Can not some plan be devised by which they can be introduced safely in *every case*, without worrying two or three days over a queen and then having her killed by angry bees?

In the swarming season, two swarms go together peaceably so that none are destroyed. And in doubling up stocks in fall or spring you destroy the queen you like least and then smoke and shake them all together and they go in their new hive quietly and peaceably. (so far as my experience goes) in every case, and the remaining queen is not destroyed. Now if these two cases are correct, and will always hold good, then does it not follow that, with the same conditions any queen may be safely introduced in the same way? For instance, take two stocks of bees or parts of two stocks, smoke and shake them together in front of a new hive and drop the new queen in upon them, will they not all go in quietly and behave as in uniting two stocks?

Again, it is well known that hopelessly queenless stocks receive queens readily. Then why not, when you have ordered a queen, prepare a stock by shaking parts of two stocks together upon combs that have neither eggs nor brood of any kind? In a day or two they will be fully conscious of their condition and a queen can be safely introduced.

Your plan of putting the queen upon hatching brood will do where plenty of bees come with her, otherwise it is too slow and if the brood is not just in the right stage, (nearly mature) or if the weather is a little cool it is liable to perish. What we want is a safe and quick way and we should have it. It seems to me those who have been in the bee business long should be able to give some sure plan of introducing, by which the inexperienced can meet with sure success.

H. C. HERSPERGER.

Keene, Ky., March 22d, 1877.

Colonies hopelessly queenless usually receive queens all right, but if we are not mistaken, there are some exceptions; taking all the combs away will generally make them behave, but not always. Even should it always answer, it is so much trouble that we believe we could better lose a queen once in a great while, than take so much time. With an imported queen, we should always take the trouble to get them hatching brood, and with the nice lot of bees that our friend Dadant sends with the queen, there is certainly no danger of her suffering. Ours always commence to lay the first day, and with several combs of bees just hatching, there will be quite a cluster in 24 hours.

We lose very few queens by removing the old one, and leaving the caged queen on the top of the frames until the bees get "good" to her which is sometimes in a half day, and from that to two or three days or even a week. Be sure she has plenty of food where the bees can not rob her of it, and she will stand the confinement very well. It should be remembered that when no honey is coming in, they will often accept a queen, and then reject and kill her even after she has laid a comb full of eggs, so we can hardly call any plan absolutely safe, that attempts giving a new queen to old bees. We can never feel sure of any plan except the one with the just hatching bees.

BEES AND FROGS.

IN looking over my GLEANINGS I notice you said one could not tell how far a frog could jump by his looks; some years ago I happened to be standing beside my bees after sundown when I noticed a number of frogs coming, hopping leisurely toward the hives. I wondered at it and watched to see what they were after; they came up to the hives, sat before them and when a bee missed the hive they gobbled it up as quickly as a toad would. I went and got my whip and struck at them and they made such tremendous leaps, you would not believe unless you had seen it. It's a hard thing to hit a frog with a whip. After the first time or two whenever I opened the gate in the evening they would clear out in double quick time. Before that, if I heard a frog squeak when a snake was swallowing it I would run and kill the snake and let the frog go, but I have never done it since. As I have no recollection of seeing in print that frogs were enemies of bees I thought I would report.

In taking out one or two combs from a hive to start a new colony and putting in empty frames, I think you hold that the bees will build drone comb. If so, what is one to do who has no extra combs? and what is the best plan you know to get good worker combs? [Fdn.] I will not speak about how my bees are doing as it's time enough to talk about a good day when night comes. Only this, that I think it will be two weeks yet before we have natural pollen here, and the weather is too cold for them to work on rye flour.

JOHN DAWSON, Pontiac, Mich.

We have had similar reports of frogs being addicted to such "shameful ways," before, but are inclined to think it not generally the case. It is like bees eating grapes, or hens eating their eggs. Give them such a scare they will never forget it, most certainly.

DEPOSITORY OF *Blasted Hopes,*

Or Letters from Those Who Have Made Bee Culture a Failure.

YOU may put me down in the list of "Blasted Hopes," as discouraged in bee-keeping. I have lost during the past winter and spring 30 colonies of bees from different causes. One starved in a Farmer's Friend hive, still there was honey in four frames, but where the bees clustered, honey was gone and all were dead and dry. I should say froze to death in the cold weather in March. Some smothered under snow, and others died of a sort of dysentery, mostly last years swarms. I think the cause was poor honey.

LYMAN LEGG.

Rose, N. Y., April 15th, 1877.

Bees are wintering very poorly in this vicinity. Nearly one-half are dead and the balance in very poor condition. The long continued cold weather destroyed them I think. Bee culture is very unprofitable and risky in this locality, as well as many others. I am satisfied from experience that bee culture requires considerable capital and a good locality, together with considerable care to insure success. Then poor seasons, long cold winters, backward springs, and low prices for honey, make it a very poor business to depend on for a living. If any one has any doubt of this I would like to have him try it and see how far I am out of the way. I think the time is past for making much money in cultivating bees, in many localities.

D. W. FLETCHER.

Lansingville, N. Y., March 15th, 1877.

We started in the spring of 1876 with 82 stands of bees, 54 at home and the rest in the country divided into two apiaries; one nine miles south and the other two and one-half miles west, both on the prairie. Our home apiary is in the timber and was mostly pure Italians. The bees in the country are the common black bee and were transferred in the spring. The spring was backward, but as soon as fruit blossoms came out, our bees all started work in earnest, and during the summer increased to 162 stands, and gave us 3375 lbs. of honey. Sold extracted honey at 16⅔ cts., comb at 25 cts. We sold direct to the consumer, and think we will always do so hereafter.

The past winter has been a very hard one on bees, we lost all but 25 stands; the greatest loss we have ever had since we have been in the bee business. Our heavy loss has set us thinking of some other way of wintering than on the summer stands. We think we will try a house hereafter.

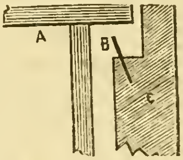
The "Queen Nursery" we got of you last season did good service—was well pleased with it. We tried the comb fdn. and found that the yellow was used before the white. Our black bees (on the prairie) averaged more honey per hive last season than the Italians.

CHAS. W. LAFFERTY.

Martinsville, Ills., April 14th, 1877.

GLASSING SECTION BOXES, AND A CHEAP SUPPORT FOR THE ENDS OF FRAMES, &c.

I BELIEVE you have not told us how you intended to fasten the glass into your section boxes. Please "rise and explain." I have been using hoop-iron —⅜ inch—for metal bearings. The iron strips B, are coated with melted wax to prevent rusting and driven into a thin saw kerf in the rabbet of hive C, thus:



I use nailed frames. Nail them in a case or frame which holds them true, and all alike as to size. A similar arrangement you will find very desirable, to say the least, to nail your wide frames in for section boxes. I think I got the idea from Langstroth's book.

T. P. ANDREWS, Farina, Ills., April 9th, 1877.

The idea is quite ingenious and simple, and the strip of hoop-iron, will certainly be quite an advantage over letting the frames rest flat on the wood; yet as we have said before, it is still far behind the metal rabbet that comes clear up above the end of the top bar. If the ends of these wooden top bars are beveled to a sharp point, there will be less chance for the bees to gum them fast to the end of the hive. In old hives, we often find the rabbet completely filled up with propolis, and the ends of the frames fastened down almost as securely as if they were a part of the wood itself.

Put the glass in the sections precisely as Doolittle does; cut it of such width that it will just go between the side pieces of the section boxes, and of such length that it will just lap slightly on the top and bottom, and then fasten it by two slender glazier's tins. The tins are to be pushed in until secure, and then bent over the edge of the glass with the thumb nail. The matter will be readily understood by referring to the cut of the section box.

HOUSE APIARIES WITH THIN WALLS, AND CHAFF.

I AM well pleased with my house apiary with thin walls, as described in Jan. GLEANINGS. page 22. Have examined my bees, and find them all O, K, in bees, and stores, and nice bright combs. And now I can not speak too highly of the long Standard hive, especially for the house apiary. Bees cluster in the front end, rear their brood there, and store their honey back next the division board, and then how easy to examine in such a house, no matter what the weather is like, we have only to brush the chaff forward, raise the quilt a little, and then if one colony lacks, we can take from those that have to spare, and give them abundance at once. I think I was fortunate in building a house for my bees and packing them with chaff, as I formerly wintered them out of doors, and many that used to be successful that way, have lost heavily this winter. My bees did not attempt to fly out much when the weather was too cool.

I think friend Ila Michener will be able to give a different report from that on page 78, March No. I know the best swarm he has is one of those packed in chaff, and while he has lost none thus packed, he has lost by other methods, lost the one he had prepared according to Mr. Muth's plan, and even those he had in his frost "proof" wintering house did not come out altogether right. I think Mr. Michener experiments too much with his bees, but I suppose he wants to find out the best way of managing them so as to secure the most profit with the least expenditure of capital, etc., etc. ANSON MINOR.

Low Banks P. O. Ontario, Canada.

GLEANINGS IN BEE CULTURE.

Published Monthly,

A. I. ROOT.
EDITOR AND PROPRIETOR.

MEDINA, OHIO.

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[*Including Postage.*]
For Club Rates see Last Page.

MEDINA, MAY. 1, 1877.

But love ye your enemies, and do good, and lend, hoping for nothing again.—Luke, 6; 35.

◆

THE month of April has with us been one of the most beautiful ever known for bee culture.

◆

OUR friend Hardin Haines says it "aint so," that he has got 16 different kinds of hives in his apiary. The type should have read *six.*

◆

OUR neighbors Shaw, Shane, and Dean, have all wintered entirely without loss. Do you not think we are getting to be quite "smart" here in Medina Co.? Friend Rice has also wintered his house apiary without loss if we understand him correctly. All who have used the chaff, report most favorably in regard to it.

◆

WE have been selling bees for the past few days quite lively. By offering hybrids for $7,00, we have got rid of all that were undesirable. As the demand seems to be more brisk for bees than for honey, we think we shall try raising bees for awhile; with the filled combs we have yet on hand since last season, we think we can turn out pure Italians to order on short notice. With imported queens at $5,00—see friend Blood's advertisement—it seems there ought to be little excuse for keeping hybrids at all.

◆

A SUBSCRIBER says grape sugar for feeding bees can be purchased for 3½c per lb. by the barrel at the factory in Davenport, Iowa. With this and the fdn., it would seem that some enterprising Yankee should give us a nice colony of pure Italians in a new, one story Simplicity hive, for an even $10, the queen to be the daughter of an imported mother. If in an old hive, the price should be $1,00 less. We will give the names of all who will do this, one insertion free of charge in our next number. Our reasons for doing this are that we wish to enable our readers to save the expense of shipping by purchasing as near home as possible.

◆

ADVERTISING in GLEANINGS seems to be profitable sometimes, after all. Listen:

The notice of combs for sale last summer, was *finally* a complete success. I sold 430 by it.
F. T. NUNN, Peru, O., March 15th, 1877.

My mother advertised her bees last spring in GLEANINGS and *A. B. J.*, three times. She sold nearly 700 colonies of which at least 400 were the result of her advertisements.
GEO. GRIMM, Jefferson, Wis., April 20th, '77.

◆

GLOVES, HOW THEY WORK.

The following is from a friend who says he can not afford to take GLEANINGS, but asks so many questions that we would almost prefer sending him it free, to undertaking to answer them. His experience with gloves is about the same as that of all who imagine them an advantage, yet it never occurs to them that it is the gloves that make the bees sting.

I made two, two story hives, but the bees would not work in the upper story at all, I therefore made the rest one story. I have 10 stands but have not had one dollar's worth of honey from them as yet.

I put on a bee veil and buckskin gloves and went after the bees last week; finding they had been building across the frames, I took the honey knife, gotten of you, cut down between the frames, and got a few out that way; I then cut and fitted the comb in straight, soldered it together with hot wax and put them back. I received about 1000 stings through the buckskin gloves; had my hands been bare I do not know how I would have fared. I am going to try and fix things so as to extract some honey this summer and expect to get the tools to do it with, of you.
H. GOULDING, Butterville, Oregon, Mar. 30, '77.

We wonder if his conscience did not trouble him after seeing so many of the little fellows give up their lives in stinging those gloves? A little smoke would have prevented getting a single sting, even if no veil or gloves were used at all, and the lives of all these innocent workers would have been saved.

◆

THE NEW FEATURE OF OUR JOURNAL.

Doubtless most of our readers who have taken GLEANINGS for a term of years have been annoyed by the repetition that we find it impossible to avoid, if we do justice to the hosts of new beginners that are coming on the stage each year for the first time. This we have decided to try to remedy. It can not well be done by a text book, for a text book is in many respects out of date in a single year. Should we publish only a single thousand, perhaps before half of them were sold something new would turn up that would render them almost worthless, or in fact worse than no information at all, on certain points. To remedy this, we are going to the expense of having a book kept up in type that we may revise it every month, or every *week* if need be. In other words, as fast as we discover a mistake in this book, or a way in which it can be improved, the improvement will be made before another copy is sent out. Besides this, as the book will be published in numbers of 8 pages each—we give the first in this number of GLEANINGS—we shall use these in answering questions; instead of the laborious work of answering by postal, or inserting the same thing over and over again in GLEANINGS, we shall simply mail the number treating of the question asked, and leave it to the good nature of the questioner to send us 5c for our trouble or not, as he chooses. This method of imparting information will be something like the tank of ice water at our door. It is given freely to everybody, and they are to pay for it or not, as they feel disposed. I have no fear but that our people will cheerfully pay for the papers, if they are properly prepared and up to the times. They will for the present, constitute a part of GLEANINGS, and if our readers will pardon the seeming repetition of a part of them, we will try to give you for the balance of it, matter that none of you have ever seen before.

FOOT-POWER SAWS.

ENCLOSED find balance for the saw. It works nicely; the worst fault I find with it is, that it has not the 40 horse power engine behind it, like the saw I have been accustomed to using; still I find the more I use it the easier it goes, and really I don't know how anything could be got up, that would work any nicer or easier with foot power; and then the changes can be made so quickly. I don't expect to do any very heavy jobs with it, but I find it is very convenient to have in the shop. The saws do not run exactly true, still they do not wabble enough probably, to injure the utility of the machine. I think the collars are slightly imperfect. I suppose it is very difficult to get them perfectly true, and probably Mr, Barnes knows just how they are, and does not send them out till he gets them as nearly true as he can.

J. P. MOORE, Binghampton, N. Y., April 19th, '77.

MAKING SIMPLICITY HIVES WITH A FOOT-POWER SAW.

Make an iron guage frame, such as we advertise, just the size of the outside of your hive, and cut the cover boards so they will just slip inside it. Make the side boards so they will just slip in it lengthwise, and the end boards so they will just go in crosswise; both are to be just 2½ inches wider than the depth of your combs. When these boards are all square true, and exactly alike, fix a small platform on your saw table so that you can give a true mitre to the ends of both side and end pieces, then with the same platform moved so as to set over the saw, cut off the strips that go round under the cover, with the mitre and shoulder we have illustrated. Make the rabbet around under the cover, and in the end boards for your frames to rest on, and your hive is ready to be put into the iron guage frames, and nailed. If these guages are just right, all the hives you ever make, will be *just right*.

Humbugs and Swindles

Pertaining to Bee Culture.

[We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.]

MRS. LIZZIE COTTON has succeeded in getting very plausible reports in both the *Scientific American* and the *Praire Farmer;* they are so worded as to call forth much inquiry, and a statement that a large apiary produced $50. per colony, makes it quite an item. Many will entrust the money to a woman, who would not think of doing it otherwise, and on this account we think the press should unite in having her promptly shown up. The wonderful book she advertises has of course never come out, and although we get replies from her frequently they are always evasions and excuses. Although she makes fair and positive promises she has never yet that we can ascertain, returned any of the money sent her.

I had supposed till lately that N. C. Mitchell was *dead*, according to his own words or rather writings he should have been some four years ago. I took his journal some 2 or 3 years and he has kept sending me circulars and promising many great things he could and would do for me if I would take an agency; and finally promised to deliver me rough and ready hives complete for $2,00, with a great many fixtures attached so that queens could be raised and fertilized without leaving the hive. I do not now remember half he promised but finally I sent him $20,00 and after waiting 3 or 4 months and writing some half dozen times, I got a rough and ready hive (without any of the extra fixtures) from Ohio with $2,00 express to pay. After writing some half dozen more letters and receiving some few excuses, he wrote me saying that he would be at my place very soon if *he lived*, when he hoped to make all things right and satisfactory, and that was the last I heard from him or my $20,00. I will send with this a few scraps of his writing, (most of them and all the circulars have been destroyed) and his receipt and premium list.

C. T. SMITH, Trenton, Ills.

Below we give his great receipt for bee-feed for forcing them to build comb. This he has sold for from 10 to $30, for each receipt, and we are told he has taken over $100,00 from a single neighborhood for it. None of these fellows seem to have brains enough to originate a single new idea; after they get the money, it is the same story over and over again of slippery elm and sugar from our friend Flick of the "Ambrosial," clear down to Mitchell.

Friend M., is not putting such a "good thing" under lock and key like hiding your light under a bushel?

RECEIPT FOR FEEDING BEES.

Our friends will remember that we promised each subscriber our process for Feeding Bees. to force them to build comb; and we have also found that the bees will live upon it, and if anything, prefer it to honey, not only for the manufacture of comb, but also for feeding the young brood. And we are led to believe that the bees prefer it to honey for every purpose; and by feeding it to the bees. all the honey may be taken from the colonies as fast as gathered.

Bees should not be fed while they are gathering honey, only in the evening, and then no more than they will take up during the night. On days when they can not fly out, they should be fed, and by doing so, bees can be made to turn out an immense amount of honey to the colony.

Take at the rate of five lbs. of common brown sugar, two gallons soft water, one tablespoonful of salt, ten grains cream tartar; put all together, bring to a boil, skim. and when nearly cold add eight ounces pulverized slippery elm bark. Stir it up well, then feed in the hive. During the summer use but four pounds of sugar.

Bees that are fed in winter should have plenty of upward ventilation.

Bee-keepers by following the above receipt will find it invaluable. We ask one favor of each one receiving this—to put it under lock and key; let no one see it.

Yours Truly, N. C. MITCHELL.

One of N. C. Mitchell's agents is canvassing this county for the Adjustable Hive. He claims a patent on the division board, close fitting with woolen cloth on the edges to keep the bees from sticking it. Are not the chaff cushions much better? I am thankful for the light which GLEANINGS gives when such men come round.

WM. A. TOWLE, Orleans, Ionia Co., Mich.

Every bee-keeper knows the inside of a hive is very soon covered with propolis; the cloth lined edge of the division board is very nice in a clean new hive, but how about moving after it is pushed down into the sticky propolis? When the gum gets hard, it sticks to the woolen cloth and your division *board* is about as secure as if nailed.

DOOLITTLE'S SYSTEM, HOW FAR WE CAN AFFORD TO FOLLOW HIM, &c.

UNDER the above heading, page 97, W. P. Hogarty asks, "How do you get those 12⅛ inch cases into a 12 inch hive?" Novice says, "brood apartment is 12 inches but the rest of the hive is wider." Now this is so in a certain sense, but it would be better understood if stated in this way. The whole hive is 12½ inches wide and a ½ inch board is nailed to one side of brood chambers to make the right spaces at the ends of frames. Again, the little boards Novice tells about, used to close the last two cases at top, have cleats nailed to them which are a little longer than the boards so that the attraction of gravitation always keeps them in place. We might have told Novice that one reason why we used two boxes in a case instead of four, was that the four box cases would be heavy to shake the bees from, but that is the least reason. As we told him then, so we say now, that in order to secure the best returns in box honey the empty boxes should be placed at the sides and the full ones taken off at the top, as bees build comb much faster at the sides, and store and seal honey faster at the top. Now if we had a four box case at the sides and a two box case on top we could not work them by the case from side to top but should be compelled to handle each box separately, taking them out of the side cases and replacing them in those on top.

Next we find that our "arrangement is both complicated and expensive compared with the plan he has adopted," and then he goes on to tell us how to manage his hives for box honey. How many of the readers of GLEANINGS know that up to less than two years ago Novice has written that boxes were things of the past and that he would have nothing to do with the sticky things? That the only way to secure honey was with the extractor, etc., etc., and now he presumes to set himself up as knowing all about how hives should be made, etc., to secure the best results in box honey. Let us look a moment and see whether his plan is a good one. In the first place, he proposes to have his boxes two tiers high. Now we believe that all box honey raisers agree that to secure the best results boxes should not be more than six inches away from the brood in any direction unless they are tiered up, and that is done by raising the first set when two thirds full and placing empty ones under them. But according to his plan we have the boxes two tiers high and empty to start with. Again, he advises to take off honey by taking off a full story at once just at night and setting it near the entrance for the bees to run out. Now there are two serious objections to this. First, that in order to get the best prices for box honey the comb must be of snowy whiteness, and every day a box is left on the hive, after it is capped over it depreciates in value, and two weeks will make a difference of from 3 to 5 cents per pound. Therefore it will be seen that before the outside sections are finished the inside ones are stained badly, thereby making it less salable. If the readers of GLEANINGS wish to have their honey command a high price and get a name of producing the finest honey in market, they should take off each box as soon as sealed. Do you think this is a task? if so, as Novice says, "you are not fit for a bee-keeper." Secondly, during taking off box honey we have some cool nights especially during the latter part of the honey season, (the time when Novice tells you you will be likely to be troubled with robbers) and when you get up a few cold mornings as soon as daylight and find the bees stupid with cold and that they have not gone out a bit you being compelled to carry them to some place of safety or put them back and wait for a warm time, you will feel that shaking the bees off a set of cases as you would from frames is not so "slow and laborious" after all. We never heard Novice say that shaking bees from frames was slow and laborious.

Since we have got your ear friend Novice a subscriber wishes to know where the diagrams and cuts of our hive are which you promised in the Dec. No. Lest this should seem too much like an advertisement we will say that we do not care to sell any of our wares and only advertise to accommodate those that are really desirous of a sample to work from.

G. M. DOOLITTLE, Borodino, N. Y., April 12, '77.

I believe I deserve all you say friend D., and frankly admit that my personal experience with comb honey is but limited. My excuse for taking so much responsibility is that I have been at much expense of both time and money, in making myself thoroughly acquainted with almost all the hives before the world, and with a large proportion of the principal bee-keepers. Many succeed with very complicated hives, but I believe others do just as well with very simple ones. As an illustration; our neighbor Blakeslee obtained 200 lbs. of comb honey from a colony in section boxes placed two high over the brood combs, and his sections were taller than the ones we advise using two high. If one wishes, they can remove the sections as fast as filled from the L. frames, as well as from your small ones, and even if a whole story is taken off at once, I know of no reason why it should be left until the combs are discolored. After the bees are all out, you can put the unfinished ones back in the hive with very little trouble.

I cheerfully submit the matter to bee-keepers as follows:

Can we afford to adopt a case for section frames that will not admit of being hung in the hive or lower story just as the brood frames are? In other words, can we afford to have two kinds of frames, or rather frames of two different dimensions in the same hive?

If you decide you can, then consider the expense of the "rigging"—I can call it by no other term—needed to accommodate all these different fixtures.

I did intend to have cuts made of your hive, but the fearful number of different pieces (that I honestly think can be dispensed with) so discouraged me that I called a "council" of our bee-keepers about here and although I defended it the best I knew how, they very emphatically said it must be simplified; which I feel sure you will do soon, if you have not already, friend D.

After the weather gets cool, we frequently find the bees out of the boxes without removing the upper story, and by raising the upper story high enough to put an empty one between it and the brood, we get the bees out without the loss of a single one. Perhaps surplus boxes had better not be more than 6 inches above the brood, yet we last season had over 200 lbs. to the colony stored in upper stories piled up 4 stories high. In several of the hives no brood was found except in the lower story, and they stored honey quite rapidly over 2 feet above the brood. They were prevented from swarming by giving them empty combs as fast as filled. How much labor was required to remove this crop of surplus think you? Had these upper stories been filled with frames of sections the yield might not have been equal, but we obtained over 100 lbs. in sections piled up 4 high, from a colony, and although the greater part of it was removed at one time, the honey was beautifully white. The fdn. converted me to box honey.

STRONG STOCKS, UNITING, EXTRACTING, &c.

I HAVE received and read your paper for some months and am much pleased with it. The experience of our best apiarists can certainly guide the bee-keeper much more safely and better than theory, and hence the value of statistics and facts from your numerous correspondents. I always read their communications with interest and wish sometimes they might be more particular in describing the means by which success is attained, and in case of loss I wish if possible they would assign the cause.

LOSSES IN WINTERING.

I lost several swarms of bees several winters ago by reason of long continued cold. For three weeks the mercury remained at zero or below and when a sufficiently warm day came for bees to change their position in the hive, I found to my sorrow that nearly half my hives contained no live bees. The little insects had clustered together as closely as possible, consumed all the honey within reach and actually perished from starvation with abundance of stores in each hive. Since that time I have invariably taken my bees into a cellar when a long continued spell of cold weather came on and again returned them to their summer stands when the weather became warm, so as not to keep them confined in the cellar longer than a month or two at a time. I have scarcely lost a swarm since, either in winter or by spring dwindling.

STRONG STOCKS.

I believe one very important matter in bee culture is to keep the swarms strong. Two large swarms came out so nearly together last spring as to cluster in one mass and I hived them in a large hive without attempting to divide them. The result was a speedy filling of the hive and over 40 lbs. of surplus box honey. The colony is now the largest and best in my apiary.

UNITING SECOND SWARMS.

I always unite two second swarms as soon after hiving as possible by placing the two hives to be united side by side, and in the evening removing half of the frames from one hive and filling the hive with frames from the other, then carefully brushing all bees from the frames removed as well as from the second hive into the chamber of the first hive. I remove the empty hive to some other place and have never seen any difficulty about the bees intermingling and working harmoniously. Indeed they almost invariably make surplus box honey the first season, while if left separate, the half of them would not wtnter without feeding.

The only single second swarm I have in my apiary came out the 2d of August last and was so large that I thought I would feed and try to winter it. I gave it extra comb and 10 lbs. of honey last fall. I have since given it 6 lbs. of sugar made into syrup and 8 lbs. of honey and am not through with it yet; although it has plenty of bees and plenty of appetite.

I learn that some bee-keepers in this locality have lost a large percentage, about one-third of their colonies during the past winter and are still losing altho' honey is in the hives unconsumed. Possibly too late or too close extracting may have been the cause of the disaster. I can ascribe it to nothing else.

EXTRACTING.

By the way how many times can honey be extracted from the brood chamber of a hive in one season without serious detriment to the queen? [We would not extract at *all* from the brood combs but from the others as often as filled and sealed.] I am building a honey house 8x12 ft. to do my extracting and keep my honey in. My idea is to extract from only half the frames of a hive at one time and afterwards extract from the other half. I thus can leave over half the bees nearly undisturbed on each occasion and by giving one hive the frames emptied from another hive, I can in a very few minutes relieve the swarm from agitation.

I went into winter quarters with 22 stands and have lost none and only a handful of bees have died and been removed from either hive. S. W. SALISBURY.

Kansas City, Mo., March 11th, 1877,

We are glad to hear you speak approvingly of our numerous letters, as some of the friends have complained of their being tedious, especially those who take so much time for details.

If we extract only from the combs in the upper story, and keep all the brood below, we can put the empty combs from one hive into the upper story of the next, without trouble. Lift out the combs bees and all, put in the empty ones, close up the hive, and we can then shake off the bees in front, and have no confusion. When the combs are extracted, carry them to the next hive, and so on.

DOOLITTLE'S ADVICE TO BEGINNERS.

ENCLOSED please find a letter from Mr Doolittle, written in reply to one I wrote him Like many others (I presume) I am just starting in the bee business, and think the advice given too valuable to be lost. A. G. BURNETTE.

Brownville, Neb., March 27th, 1877.

Dear Sir:—I make hives for sale and of course am glad to sell them, but I will give you advice as I would a friend, without trying to grind any ax of my own. In the first place don't send to me or any other party for bees if they can be got within 20 miles of you; and if you have but little or no experience with them do not buy more than two or three swarms and select them as I gave directions in April No. Buy black bees in box hives if you can get them (for they can be bought much cheaper) and transfer them. Then get a dollar queen (Italian) or two from different breeders and learn how to introduce them. Your two swarms of bees will increase as fast as your knowledge will, and if you take an interest in them you will not be very liable to make a failure of the business. Get some good movable frame hives and after transferring handle them often so as to learn all the inside operations of the hive. Keep experimenting on what you read so as to prove what is good and throw away the bad. Don't get more than a sample hive of any one, but make the rest yourself Make your bees and yourself, self sustaining and after the first start don't pay out for any thing in the bee business more than what the bees bring you in and thus you will prosper. If you wish any thing farther don't be afraid to ask questions for I am always ready to help anyone I can in the bee business.

G. M. DOOLITTLE, Borodino, N. Y., Mar. 19th, '77.

QUEENS REARED IN NUCLEI.

WILL you be so kind as to say whether you regard queens raised in nuclei as good as if raised in full colonies?

I used foundation last season with highest satisfaction. J. M. SMITH.

Cedar Springs, Mich., March 27th, 1877.

We belive it has been abundantly proven that it matters little whether we have a quart of bees or bushel, so that honey and pollen gathering are going on, and that all the conditions of a prosperous swarm are at hand. Perhaps a pint of bees might answer equally as well during favorable weather, but the chances are rather against queens reared with so few bees. They are quite apt to get discouraged and work feebly, the queen larvæ is left with a meagre supply of food and we then of course have feeble queens. We know strong queens have been reared with less than a pint of bees, but it is too unsafe to adopt as a rule. More poor queens result, in our opinion, from allowing the bees to use larvæ too old, than from any other one cause, and we should strongly advise having them reared from the egg.

WIDE AND NARROW TOP BARS, AND MOVING BEES SHORT DISTANCES.

CAN you furnish metal corners of larger size than those you are using? I must have the top bars of my frame 1¼ inches in width. I am thoroughly disgusted with narrow frames; the bees build comb on the sides of the frames and across the spaces so that I can not put the frames in place without pinching the bees between the knots of wax that are built across the spaces between the frames. It is a great trouble to cut those wax braces off the frames in a strong hive of bees. With wider top bars this difficulty is entirely obviated. I use a two story hive; the heat is so intense here at times that we could not keep the comb from melting down without the top story not even in the most dense shade. We sometimes have to raise or separate the stories so as to leave an air space between them and at the top to prevent the melting of the combs.

I move bees short distances say 5 to 10 rods, and by shaking them on a cloth in front of the hive, (it may be done before or after removal but I prefer to do it at the old location) and as soon as they are settled on the combs moving to any locality they will not go back. It is not necessary to give them other than their own combs. Shaking them off the combs renders them homeless, and they will accept any place that you may desire as a home. Bees here have wintered well with chaff, without chaff, without any protection on their summer stands and in cellars.

ABNER ALLEN, St. George, Kansas, Apr. 9th, '77.

The matter of wide and narrow top bars, is one that has been carefully tested years ago, and we only decided on 7/8 of an inch for the metal corners, after some very faithful experiments. Wide top bars, like closed top bars and ends to frames, seem to be just the thing when first used with new hives, but after the combs get old and well waxed, and after they have passed through a season of a bountiful flow of honey, we begin to see that there is trouble with them, even greater than with the narrow ones. In fact the whole top of the frames will be almost one solid piece. It may be bad at times with a narrow top bar, but you will assuredly find it worse with the wide ones if you give them an extended trial.

. The plan of shaking bees off the combs to make them contented in a new location, will succeed sometimes, but it is so often a failure, that we feel it will hardly do to recommend it. Some stocks seem almost determined to go back to their old home, no matter what we do with them, while others seem to understand very readily what is wanted, and to be content with almost any amount of moving. We will have to go slowly, and work carefully, or we shall meet with considerable losses.

OUR OWN APIARY.

HOUSE APIARIES.

APRIL 11*th*—Our bees are in beautiful condition, and the value of chaff cushions and chaff packing, is demonstrated, at least to our complete satisfaction. The house apiary winters bees beautifully, if the hives are chaff packed or cushioned. Weaker colonies than we ever wintered out-doors have come through in nice trim, when they were protected with a chaff division board, and a thick cushion on top. The animal heat generated when they commence brood rearing is really astonishing, for the cushions above the cluster feel as we have said before like the nest of a setting hen. The cushions are so easily handled in the house, that we can overhaul 20 hives easily in an hour. The house apiary, is certainly a success, but still there are some unpleasant features about it; both dead and live bees are getting out in the room more or less, and we are obliged to be constantly sweeping the floor, if we would not have mashed bees under foot. One also feels cramped for room in a way that is not the case in the open air, and all things considered, we shall probably have a wide difference of opinion in this matter, as in many others in bee culture.

COVERS, IMPORTANCE OF GOOD ONES.

One fine colony was found dead out of doors just because the hive had a leaky cover, that had permitted the cluster to get soaking wet just before a hard freeze. Be sure your covers are made of good sound boards, and then keep them well painted.

MEAL FEEDING.

We have thought for the past few seasons, that meal feeding might possibly have something to do with the dwindling, by starting brood rearing unseasonably; but during this fine warm April weather, the bees seemed so hungry for something of the kind that they even carried in large loads of sawdust, and in pity for them, we gave them wheat flour. They used nearly a ¼ barrel sack in one day, and under its influence they have started brood so bountifully, we have decided they shall have all they will take. If it results badly, we will report.

SMOKERS.

Mr. Bingham has very kindly sent us one of his smokers, which works just about as well as Quinby's, but so far as we see, no better. It is by no means as neat as the Quinby, and is much more cheaply got up. With our tools and machinery, it would be an easy matter for us to make them by the quantity for 50c each. Why can they not be sold for an even dollar? I confess I hardly know where duty lies in such matters.

May 12th—The chaff packed hives have already commenced sending a stream of warm air out at the entrance, while those with only a cushion on top, do nothing of the kind. One of the best colonies we have, is in a hoop hive, but it was banked up with sawdust nearly to the cover, otherwise it has had only its summer quilt and cover over it. The ground and sawdust, with the warmth from a heavy colony of bees in heavy old combs, seemed to have kept out the frost almost entirely, for scarcely a dead bee was found in the hive. The objection to such a plan, is that the hive would very soon rot, from the effects of the damp ground and sawdust, even should it always succeed as well. We have thought of placing tin next the ground, but it would be expensive.

THE A B C OF BEE CULTURE.

A.

AGE OF BEES. It may be rather difficult to decide how long a worker bee would live if kept from wearing itself out by the active labors of the field; six months certainly, and perhaps a year, but the average life during the summer time is not over three months, and perhaps during the height of the clover bloom not over six or eight weeks. The matter is easily determined, by introducing an Italian queen into a hive of black bees at different periods of the year. If done in May or June, we shall have all Italians in the fall, and if we note when the last black bees hatch out and the time when no black bees are to be found in the colony, we shall have a pretty accurate idea of the age of the blacks. The Italians, will perhaps hold out under the same circumstances, a half longer. If we introduce the Italian queen in September, we shall find black bees in the hive until the month of May following—they may disappear a little earlier, or may be found some later, depending upon the time they commence to rear brood largely. The bees will live considerably longer if no brood is reared, as has been several times demonstrated in the case of strong queenless colonies. It is also pretty well established that black bees will live longer in the spring than Italians; probably because the latter are more inclined to push out into the fields when the weather is too cool for them to do so with safety; they seldom do this however, unless a large amount of brood is on hand, and they are suffering for pollen or water.

During the summer months, the life of the worker bee is probably cut short by the wearing out of its wings and we may at the close of a warm day find hundreds of these heavily laden ragged winged veterans making their way into the hives slowly and painfully, compared with the nimble and perfect winged young bees. If we examine the ground around the apiary at nightfall, we may see numbers of these hopping about on the ground, evidently recognizing their own inability to be of any farther use to the community. We have repeatedly picked them up, and placed them in the entrance, but they usually seem only bent on crawling and hopping off out of the way, where they can die without hindering the teeming rising generation.

AGE OF DRONES.

It is somewhat difficult to decide upon the age of drones because the poor fellows are so often hustled out of the way for the simple reason that they are no longer wanted; but we may be safe in assuming it something less than the age of a worker. If kept constantly in a queenless hive, they might live for three or four months perhaps.

AGE OF THE QUEEN.

As the queen does little or no out-door work, and is seldom killed by violence as are the drones, we might expect her to live to a good old age, and this she does, despite her arduous oviparious duties. Some queens die, seemingly of old age the second season, but generally they live until the second or third, and we have had them to lay very well, even during the fourth year. They are seldom profitable after the third year, and usually the Italians will have a young queen "helping her mother" in her egg laying duties before she becomes unprofitable. If a very large amount of brood is found in a hive, two queens will often be found, busily employed, and this point should be remembered while seeking to introduce valuable queens.

ALSIKE CLOVER. This is a cross between the white, and the red clover, and while it furnishes full as much honey as the red, the petals are so short, that the bees find no difficulty in reaching it. The cultivation is so much like that of the red clover, that what applies to the one, will do for the other; as the seed of the alsike is much smaller, a less quantity is required. The general rule, is four pounds to the acre. As it blossoms only the second year, or very sparingly the first with ordinary cultivation, it may be sown almost any time, and in fact it is often sown on wheat on the snow in March; in this way, we can see just how evenly we are getting it on the ground. Although alsike will produce some honey with almost any cultivation it is important to have the ground nicely prepared if we wish to get large yields of either hay or honey. With good mellow ground, finely pulverized, we may get a growth of three feet in height, and a profusion highly colored blossoms that will astonish one who has never seen such a sight; especially when the field is roaring with the hum of the busy Italians. As a heavy growth is liable to lodge badly during wet weather, it may be well to sow a sprinkling of timothy seed with it. If put in early, it may on good soil, produce considerable bloom the first season, but not much is to be expected until the second year when it is at its height. It will give a fair crop the third year, but after that, if we would keep up a yield of honey, it must be sown again. The seed has for a number of years sold readily, for about $12.00 per bushel, and the average yield of seed, is about four bushels per acre. It retails for about 25 cents per pound, and 60 lbs. is reckoned as a bushel. The honey is equal to any in the world. See CLOVER.

APIARIST. One who keeps bees, or a bee-keeper; and the place where he keeps his bees, is called an

APIARY. As you can not well aspire to the former until you are possessed of the latter, we will proceed to start an apiary.

LOCATION.

There is scarcely a spot on the surface of the earth where mankind find sustenance that will not to some extent support bees, although they may do much better in some localities than others. A few years ago, it was thought that only localities especially favored, would give large honey crops, but since the introduction of the Italians, and the new methods of management, we are each year astonished to hear of great yields here and there, and from almost every quarter of the globe. It will certainly pay to try a hive or two of bees no matter where you may be located.

Bees are kept with much profit, even in the heart of some of our largest cities. In this case the apiary is usually located on the roof of the building, that the bees may be less likely to frighten nervous people, and those unacquainted with their habits. Such an apiary would be established like those on the ground in all essential points.

Select a spot near the dwelling, and if possible have it where you will be likely to cast your eye every time you pass out or in. Although trees can scarcely be said to be objectionable we believe we would prefer a clear piece of ground, that we might supply the shade to our liking. It will be an excellent investment of your time or money to have the plat nicely cleaned of all rubbish, and the ground leveled as far as may be; if you can get it in the condition of a brick yard all the better; a gentle slope would be desirable, and although a slope to the south and east has been thought best, we are not sure that it makes any particular difference. As we wish the ground to dry quickly after showers, it will be an excellent plan to have it all underdrained. If you can not well do this, make open ditches around the outside, or wherever water seems disposed to stand. The ground should be a little higher, for this very reason, and you should be careful that no low places are left where the water may collect and stand around or near the hives.

Bees ascend with difficulty when heavily laden, and on this account we would have the apiary located in a valley, rather than on a hill that they may rise as they go in quest of stores, and then have a downward slope as they come in with their loads. They will also suffer less from the effects of heavy winds, when given a home on rather low ground.

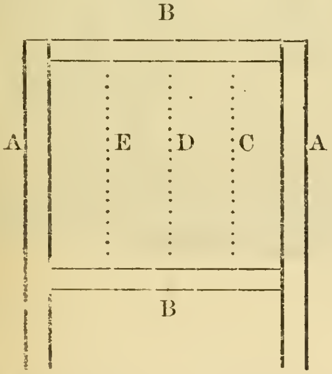
WIND BREAKS.

A tight board fence should surround the plat, at least on the north and west sides, to keep off cold winds, and if it can be made strong enough to stand the prevailing winds it will be all the better to have it as much as 8 feet high. We would by all means advise having some kind of an enclosure that will exclude poultry, dogs, etc. A flock of "enterprising" hens will make more disorder in a few hours in a well kept apiary than the owner can restore in a half day. We wish to have the ground so clean that we can get down on our knees in front of any hive at any time. This we can not do in any enclosure where poultry have free access. The high strong fence will also do much to discourage thieves from attempting to pillage the honey, for climbing into such an enclosure is quite risky business when it adjoins a dwelling. If a part of the dwelling could open directly into the apiary, it would be a fine thing on many accounts.

THE VINEYARD APIARY.

Get two posts 6 feet long and three inches square; these must be of some durable wood, white oak for instance. If you can afford the trouble and expense we really would prefer that you have them planed and painted; at any rate do not expect your apiary ever to be any thing you may be proud of if you push down some old sticks temporarily, one longer than the other perhaps, and both askew, for such work soon becomes unattractive and is shunned. Many visitors have admired our apiary, and thought it no wonder we enjoyed bee-keeping in such a place, and these same persons have declared their intention of tipping their poor neglected hives of bees up square and true, removing the weeds, starting grape vines, etc., but alas! their attempts were too often but a couple of sticks picked up hastily as we have mentioned, and a few vigorous strokes in the battle with old dame nature, and then they desisted before the "coy old lady" had even had time to yield and bless her devotees with such smiles as only the successful cultivator of the soil knows she can give.

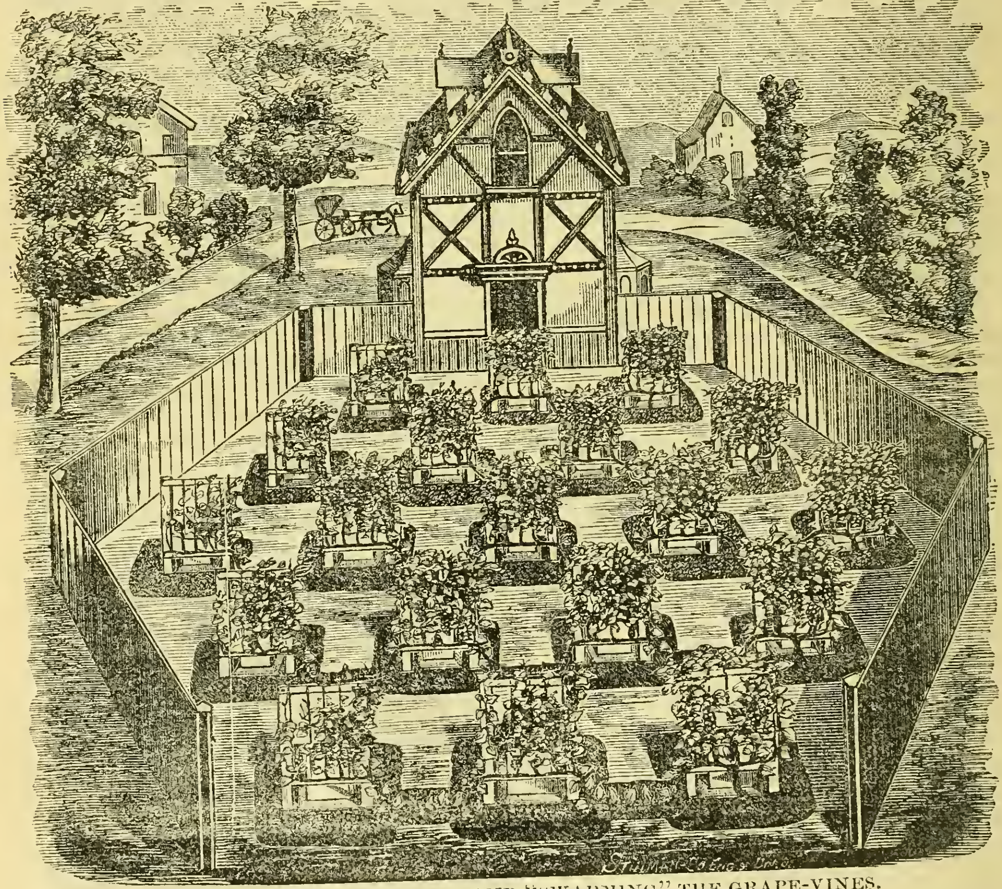
Select the site of your workshop, for such we shall expect it to be, near the centre of your plat of ground and drive these posts or stakes so that they stand east and west and just three feet from each other, measuring from outside to outside. They are to be driven in the ground so that just four feet is left above, and they must stand plumb and square; if you can't make them otherwise, get a lever and strong chain and twist them until they are so. Now nail a strip of pine board 1x3 inches and 3 feet long, on the south of both, and just level with the top, from one to the other; just three feet below this, nail a similar one. When the whole is square, true, and plumb, stretch three wires from one strip to the other; these are to be at equal distances from the posts and from each other, and we would then have something like the following figure.



Let A, A, represent the posts, B, B, the 1x3 strips nailed on the south side of the posts, and C, D, E, the wires. These wires should be galvanized iron wire, about No. 16 or 17, larger would be more expensive and no better. Now we are all ready to have a fine thrifty Concord grape vine planted directly underneath the central wire D. Of course some other grape will do, but we have found none so hardy and thrifty, and that gives us the strong rapid growth that is so desirable for making a shade for our hives as soon as extreme hot weather comes on. Vines are usually planted only in the spring and fall, but we should have very much more confidence in your success if we knew you were one of those clever individuals who can plant a vine and make it grow, at *any* season of the year. You can surely do it if you have a mind to. Go to your nearest nursery-man (don't ever buy of peddlers) tell him what you want, and get him to help you take up the vine, roots dirt and all, soaking the soil with water to make it stick together if need be, while you place the whole in a bushel basket for transportation. Make a large hole beneath your trellis, and lift your vine into it as carefully as you took it up, fill in with good soil, and after cutting off all the top but one shoot with three or four leaves, treat it just as you would a hill of corn that you wish to do extra well. If the operation is done in hot dry weather, it will probably need watering, and may be shading, until it gets started. We expect you in future to see that no weed or spear of grass is allowed to make its appearance within a yard at least of this grape vine. Those accustomed to making rustic work, would doubtless be able to make very pretty trellises at a trifling expense for materials. This vine is to have its one shoot tied to the central wire D, as fast as it grows, pinching off all side shoots after they have made one leaf. When it gets to the top of the trellis, pinch it off also, and it will soon throw out side shoots. Pinch all off again except one on each side near the bottom bar B. Train these by tying, straight out horizontally until they reach the posts, then train them up the posts and pinch them off like the middle one. Now get two more shoots to train up the wires C, and E, and we are done. The future treatment of the vines consists only in cutting the upright shoots all back to the horizontal arms tied to the lower bar B, every winter, training *two* new shoots up each wire and post every summer, and pinching them off whenever they get to the top.

Very well; your one vine is supposed to have become strong and vigorous, and to have not only covered the trellis completely, but to have seemingly become impatient of being restrained by the continual pinching back necessary to keep it within such narrow limits. It in fact has perhaps manifested this by blossoming and attempting to bear grapes out of season near the top bar of the trellis. It is precisely like a colony having too many bees for the size of the hive. Very likely each one of the ten upright canes has produced three or four fine clusters of extra large nice berries, but still the vigor of the vine, (if our directions have been carefully complied with) is equal to something more, and accordingly we encourage one of the outside canes by allowing it to send a new shoot up above the rest of the trellis. When this is well started, the whole cane is bent over so as to go straight down to the ground and then curved outward so as to lie in a trench a few inches deep, that it may be covered with soil enough to protect it from injury.

A new trellis is now to be constructed, if it has not been done before, just 3 feet from the old one; that is, the two trellises are to have a walk of just 3 feet in width between them. The new shoot grows very rapidly and can soon be tied up to the first post of the new trellis and across the lower bar. Now select a side shoot for each wire, and almost before you are aware of it, you have another complete grape vine. The accompanying engraving will make it all plain.

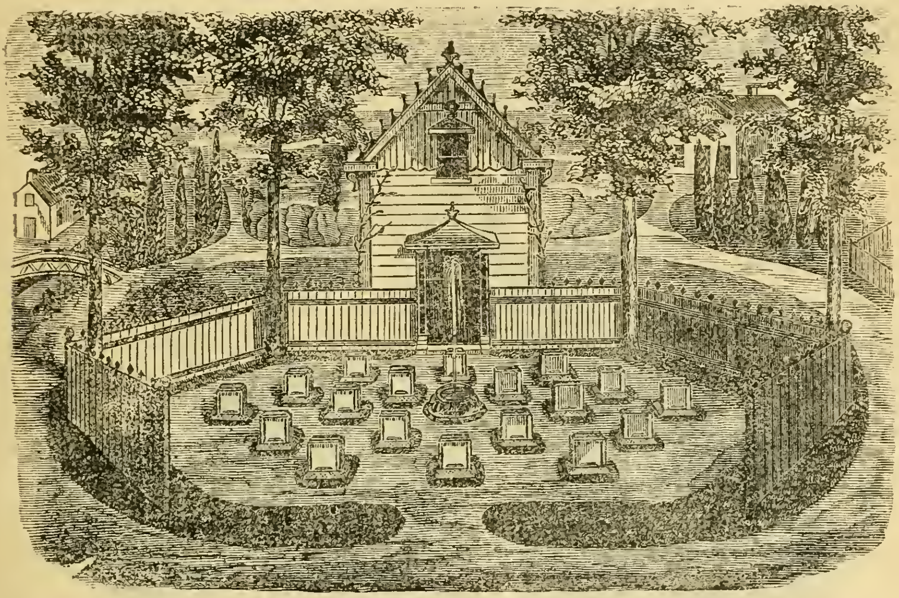


THE VINEYARD APIARY, AND "SWARMING" THE GRAPE-VINES.

The view is taken from the south side, and the hives are just visible through the foliage in their proper places. One strong vine will furnish shoots for not only a new one at the right and left, but also for the whole six that are to surround the original one, even in a single season if need be. As the new vines take root almost as soon as laid down, the old vine suffers but little loss, and new ones that were started in this manner the 4th of July were pretty well loaded with fine grapes the next season; their connection with the old vine enabling them to become bearing vines in one year only. Although their remaining attached to the old vine does not seem to impair its productiveness, the aid they receive from it is quite important. This matter we tested by chopping one of the new vines off where it left the old one, as we were hoeing about them. It had been growing with great vigor, and had considerable fruit on it, but the next day the sun hung its foliage like wilted cabbage leaves. By heavy mulching and buckets of water, we induced it to look up again, but it is far behind its comrades, and we have decided it best not to sever "parental ties" in future at all, and if we are careful in tieing them close to the posts in laying them down, they are never in the way.

The idea, that the culture of bees in any way interferes with that of grapes is a joke entirely outside of our experience. Where grapes are trained thus, fowls if allowed will make sad havoc among them; the bees of course then work on the bruised ones but seldom otherwise.

It may be urged that the above is too much trouble; it is some, but the fine crops of fruit that are almost sure to be secured every season, should pay well for all the trouble, and if you have more than is needed for home use, you will find a ready sale for such grapes at good prices.



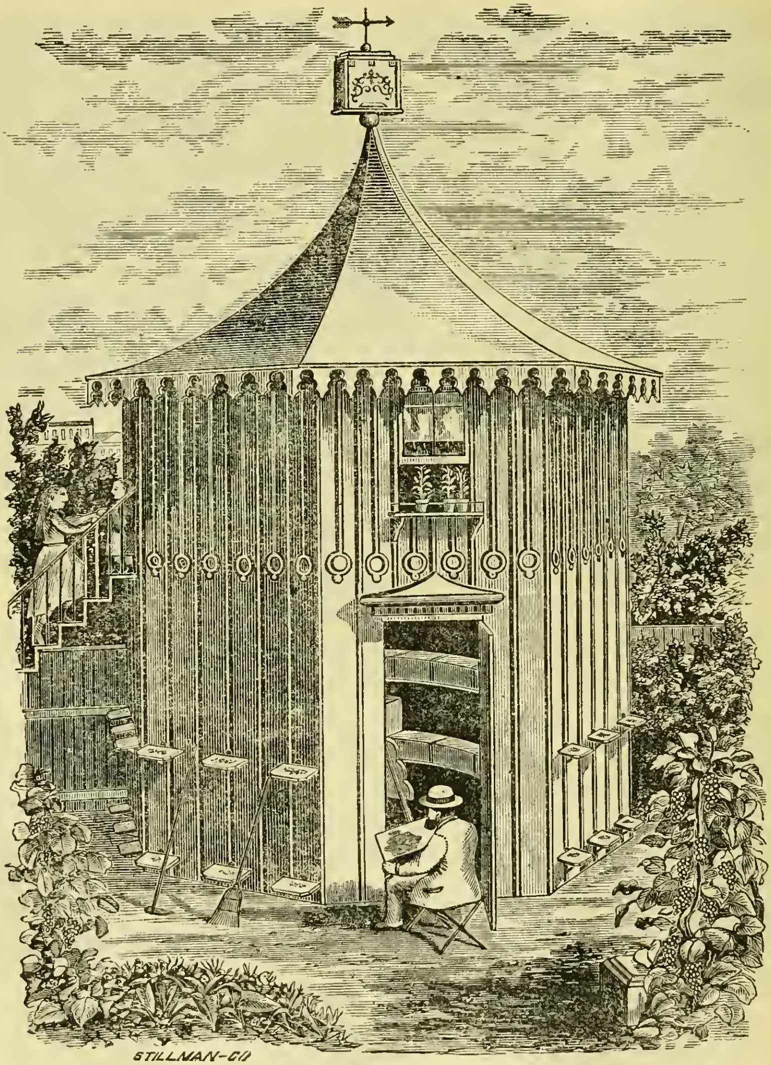
THE LAWN OR CHAFF HIVE APIARY.

With these we can dispense with the grape vines entirely, as their thick chaff packed walls protect them from the sun, as well as from the frosts of winter. Such an apiary may be made very pretty, for it is in reality a miniature city, with its streets and thoroughfares. During the swarming season, it will probably at times be quite a busy thoroughfare. Some expense and care is avoided by this plan, it is true, but the hives cost considerably more, and are rather unwieldy to handle when bees are to be moved about, sold etc. The fact that they can be safely wintered on their summer stands, and that very little preparation is needed to enable them to winter safely, is much in their favor.

THE HOUSE APIARY.

This is a very old idea, having been recommended and used at different times for more than a century past. With the strides that bee culture has been making recently, new reasons have come up for making it desirable that the hives should be housed; and in spite of the difficulties, many house apiaries are now giving very good results, and with perhaps less labor than when the hives are kept in the open air.

The objections to the house apiary, are, first the expense, especially the *first* expense, for one can make a start in bee culture with a very small amount of capital. with the out-door hives, and the sales of honey and bees will at once furnish all the capital needed, for a moderate yearly increase. With the house, the capital must be furnished at the outset to build the building, and a house for 50 colonies, will cost much more than the same number of hives. Most apiarists prefer working in the open air to being cramped up in a building, (no matter how large it may be) even at the expense of having to perform more labor and take more steps; secondly, in a building we are obliged to get all the bees out of a room every time we open a hive, and bees either dead or alive, are very untidy when crushed by careless footsteps on the floor of a room. To avoid this, necessitates an almost incessant use of the broom. Again, when young bees are just sallying out for their first flight, they will, if the hive is opened at just the right time, come out in the house in great numbers, and to try to stop them by any other means than closing the hive, is like trying to stop the rain from falling. These bees after having had their "play-spell," will insist on returning to the hive in the same way that they came out, and if they are driven out of the house and the door closed, they will sometimes collect in a large cluster on or about the door. It is true they are seldom lost, for they will usually be allowed to enter the hives nearest the door, but it weakens the hive from which they came, and is very apt to puzzle a novice in the business sorely. To obviate this trouble we can avoid opening the hives during the afternoon, or at such times as the bees are likely to rush out for a play; after a shower for instance.



A MODERN HOUSE APIARY.

We give above, a very accurate picture of the house apiary that we have been using for the past two years, except that the artist has given it a roof rather more fanciful than our own. The interior will be readily understood from the diagram; the upper story is at present occupied by the children as a play room. Perhaps the most difficult part to make in the whole building is the roof, unless we make it of tin; this is somewhat expensive but if kept well painted, it will last almost indefinitely. The ornamental work, is of course in no way essential to the success of the establishment pecuniarily.

The good and desirable qualities of the house apiary, are first, it is always sheltered and dry, and if the building is kept painted, the hives will always be in good repair; this is quite an advantage over out-door hives. The hives can be much more quickly opened, as they need no other covering than the chaff cushions in winter, and a single sheet of duck in summer. Secondly, surplus honey, either extracted or comb, can be removed in much less time, for we have only to remove it and store it in the centre of the room, instead of the laborious carrying that has to be done with out-door hives. Also empty combs, combs filled for destitute colonies, empty frames, frames of section boxes, and in short everything needed in working about the hives may be stored in the centre of the room, within arms reach of everyone of the 36 hives. Furthermore we can handle the bees and do all kinds of work with them during rainy and wet weather when the out-door hives could not be touched.

Nay, farther! we can handle the bees by lamp light after the duties of the day are over, and we have repeatedly made new colonies thus, to avoid the robber bees that were so annoying in the day time, during a dearth of pasturage. By closing the glass doors, and opening the outer doors, we can work in perfect freedom from robbers at any season of the year. Artificial swarming, queen rearing, etc., can be carried on very expeditiously, and at a small expense, for the reasons we have mentioned. It has been said that the bees sting worse in the house, than in the open air. This may be the case under some circumstances, but we think not as a general rule. The house gets unpleasantly filled with smoke from the smoker, but it will be but little expense to have a box in which to set the smoker, having a smoke pipe communicating with the open air.

Many house apiaries are constructed of a square or oblong shape, but our objections to such, would be the difficulty of getting the bees out of the corners of the room, (this might be obviated by having a square house with the doors at two opposite corners) and the increased danger of having both bees and queen get into the wrong hives. From the engraving of the house apiary and diagram of the ground plan given below, it will be seen that only 3 hives are on a side. The bees from the central one, will of course recognize their own entrance, and those at each side, being the end of the row, will also find theirs without trouble. To make the entrance to each hive still more conspicuous we take advantage of the battens on the building, as will be seen from the diagram. The building is made of pine or other boards one foot in width, and these boards which are put on up and down, constitute the entire frame of the building. Six of them put as close together as they will come conveniently, form one of the eight sides, and the cracks are covered with a beveled batten, one edge of the corner boards being beveled slightly, that the batten may close the corner crack also.

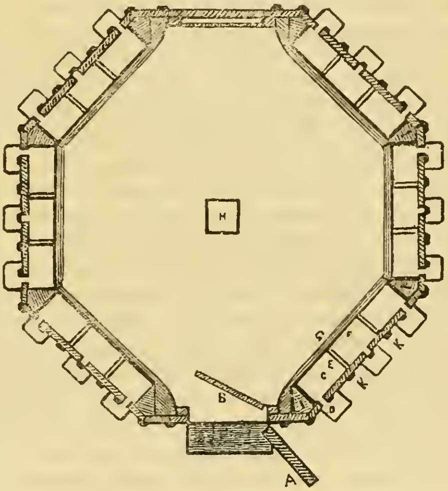


DIAGRAM OF INTERIOR OF HOUSE APIARY.

A, represents one of the heavy outer doors, and B, the light door with glass sash; these doors are the same, on both the east and west sides of the building. G, is the shelf that runs entirely around the room, on which the hives are placed. It is about 3½ feet from the floor, and should be about 18 inches wide. The hives are made by a simple division board E, that holds a pair of metal rabbets on its upper edge, one facing each way; the combs are hung on these, and when all are in place, a sheet of glass F, bound with tin around its edges, closes the hive by being hung in the rabbets the same as are the frames. The top of the hive is closed by the usual sheet of duck. During winter and spring, the bees are protected by thick chaff cushions laid on the duck sheets. It will be seen that these sheets of glass face the spectator on all sides of the room, and when during the working season, we can see the bees filling sections and building comb just back of these glass division boards, the effect is more beautiful than can well be imagined. The room should afford as few corners where stray bees may get a lodging, as possible, and to this end, we close the triangular corners by bits of board I, I. They may have a knob on top, and these boxes will then serve for little cupboards in which to keep various utensils. If the room is open a great deal, the bees are inclined to waste time in buzzing against the glass, therefore it may be well to have a cloth curtain to drop over them, except when we wish to examine the progress of the colony. To prevent the house from becoming damp, we need a ventilator H, in the centre of the ceiling, about a foot square, and we can also have a trap door in the centre of the floor to admit cool air from the cellar, during very hot weather. D, is the door step, and the entrances are shown through the walls, just by the battens. It will be observed that the middle hive on each side, has its entrance through, or rather under the batten; this is that the bees may have an additional mark for their own hive, for the entrances—2 inch auger holes—at the sides, are made at the right and left of the battens. The plan seems to work well, for we have lost fewer queens in the house apiary than from any of our out-door hives. The battens are also a shade darker in color, than the rest of the house; thus making them ornamental as well as useful. A light drab, is a very pretty color for such a building.

Besides the hives we have just described on the shelf, we have precisely the same arrangement of them on the floor, or if preferred. raised on a little platform a couple of inches above the floor. In extracting, we can get along very well with the lower tier, by removing the sheet of glass, and shaking the bees on the floor close to their combs; with the upper ones, we find it best to stand on a chair or box, and shake them on top the frames close to the wall. If they scatter about, and threaten to run all over the walls and ceiling, take the next on the other side, until they get back, assisting them meanwhile with a little smoke. For comb honey, we work just as we do with the out-door hives.

The upper story will be found very convenient for storing various things about the apiary, such as the chaff cushions during the summer. and empty sections and combs during the winter; for we wish to have our lower room at least always neat and tidy.

FLOATING APIARY.

This project we believe has never as yet been put in practice in our own country. The idea is to have an apiary on a large flat bottomed boat or raft which is to be floated along, on some of our large rivers, so as to be constantly in the midst of the greatest flow of honey, almost the season through. It is well known that the white clover commences to bloom first in the extreme south, and then gradually moves northward; if we could be in the midst of this yield during its height, for 6 or 8 months, it would seem enormous crops might be obtained. We are informed by history, that the ancient Egyptians of the Nile made a practical success of these floating apiaries, and that they were warned when it was time to return home by the depth to which the boat sank in the water, under the weight of the cargo of honey. That the bees might not be lost, the apiary was floated to a new field during the night. Something similar, located on wheels to be drawn by horses, has been suggested, but we believe never attempted.

THE RAILWAY APIARY.

The honey house is placed at the lowest side of the apiary and a track or tracks with proper switches made to run between each two rows of hives. A barrel is fixed low down in the car, and extractor and implements placed over it. The whole is covered with a light, square tent, made of canvass and wire cloth for an assistant to work secure from robbers. Roll your car to the top of the slope, hand the full frames from the hive through a slit in the canvass to your assistant until the hive is finished, then roll your car to the next two hives, and so on until you get to the house, when your barrel should be full and ready to roll off for another.

The same arrangement would answer for avoiding the labor of removing comb honey from the hives; and if the bees are wintered in-doors, the hives can be placed on the car, and run directly into the wintering house.

Some experiments have been made with hives permanently located on small low cars, which are to be run into a frost-proof house for wintering, or whenever the weather is such as to make it advisable to house them.

◆

There now! I have finished the first 8 pages of my A B C Book, my friends, and now if I have made any mistakes, please tell me where on a postal, and we will have it right before we go any farther.

Heads of Grain,

From Different Fields.

"CORN-CRIB" HOUSE APIARY.

My bees are wintered through now, young bees are hatching plentifully and old are gathering pollen. That is the turning point; they will grow stronger now. You are in possession of my ways of wintering; there are only two ways that will be noticed much, the best plan is cellar wintering; that is my opinion, but chaff is my hobby and I shall ride him for "fun" to the tune of $250, on the plan you mentioned on page 105. This building will be in operation June 1st, and is designed for 50 hives. It may be a failure, but will make a good shop then. Now I want to say my hives are full of bees, raised last fall, they will be there until they swarm in June, crowded all through the spring. Am raising drones now.

J. L. DAVIS, Delhi, Mich., April 10th, 1877.

Very glad indeed friend D., are we to hear you are going to make a trial of this apiary, and we hope you will keep a record and tell us just how much one costs for 50 hives. We would caution all who experiment with house apiaries, about leaving any crevices where the bees may get out into the room. They will be sure to get out if it is a possible thing, and then you will not only lose your bees, but they will present a very unsightly appearance lying dead about the room and scattered over the floor and around in the cracks and corners. If the spaces between the strips of siding were far enough part to allow the bees to get out, perhaps this would be remedied, but then we should have to keep everything closely covered from robbers as we do out of doors. At present we are unable to say which course would be most desirable. Perhaps the two can be combined. After opening a hive, many times bees will stray out along the walls and get on the floor—a prompt and careful use of a Quinby smoker will remedy this very much—and we can leave the doors wide open and let them get out at their leisure, or we can brush and broom them out. As it is quite inconvenient to leave the house open when we go away, we have been in the habit of using the broom. If left on the floor, they are sure to be stepped on and therefore this brooming business is quite a disagreeable task, that we entirely escape with the out-door hives. Again; the bees that get out inside of the house, very often know nothing of the outside entrance at all, and unless gathered up and put back into their own hive, are pretty sure to be lost. Attempts have been made to remedy this by having a window or opening throu' the wall over the entrance to each hive—this is quite an expense, and opening and closing so many, makes a good deal of labor and complication.

CALIFORNIA.

We consider our rainy season past and we have only 2 inches of rain. It is almost entirely certain that we will have no grass for the next 8 or 10 months, and almost no crops. There is much foreboding of distress this season in southern California. Hogs are being fattened and shipped off; sheep, great herds of them are being fed to the hogs, or shorn and sent 500 miles to Arizona. I bought two good muttons last week for 50c each. But won't there be lots of resting here this year. I think bee-keepers are better situated than most other classes. We hope generally to save our stock, but there is slight hope of increase or honey. Nearly all the honey is sold out of this part of the state. I am glad I have over 5 tons of it yet on hand.

R. WILKIN.

San Buenaventura, Cal., March 20th 77.

We give the above to show some of our many readers, that even California has its unpleasant features, and bad seasons now and then.

The saw ordered of you March 5th came to hand the 3d inst. The delay was occasioned by some improvements being made which were ample compensation. It worked finely, but it is a man's business to run it steady all day. Have sawed out stuff for 30 L. hives.

W. C. GILLETTE, Le Roy, N. Y., April 7th, '77.

OVER STOCKING.

There are over 1000 swarms of bees within 3½ miles of me, and they seem to do just as well as ever. I do not think this locality can be over stocked.

M. L. BARNEY, Hartford, Wis.

Please find enclosed $1,00 for advertisement in dollar queen list for one year. My bees have wintered in the finest condition. We think our bees are purer than any imported Italians, just as good workers, and they will not steal and rob like imported stock.

MISS A. DAVIS, Holt, Mich., April 10th, '77.

We fear Miss A., you are a little prejudiced against the imported queens, for we have never found their bees disposed to rob, anything like the hybrids. Although we are hardly prepared to say your bees are purer than the imported ones, we can say they are very fine looking, gentle, and very good workers. We feel sure our friends will be pleased with any you may send out, and as you are the only lady in the list, we hope they will keep you busy filling orders. We should like much to pay you another visit when your father gets that "corn-crib" apiary going.

BEES ATTACKING THEIR OWN QUEEN.

Bees are doing finely, have had 2 swarms, one on the 4th and one on the 5th, both Italians. I was looking through a hive of hybrids on the 5th for the queen and queen cells; found no cells but found the queen in a knot of bees that were apparently trying to kill her, this being before I had even touched the frame she was on. I released her, put a little honey on her and put her among some bees at the entrance, they at first seemed to receive her kindly but finally clinched her again and I think would have killed her. I then caged her and introduced her as though she had been a strange queen. Now if you know the cause I would like to have it and the remedy.

S. P. BARLOW.

Adamsville, Tenn., April 9th, 1877.

It is not always easy to explain cases of this kind, but we think it is generally occasioned by bees from some other hive getting in by accident. Had you not been changing the position of the hives, or had not bees from one of the new swarms by some accident got into this one? It frequently happens that strange bees will be permitted to go in quietly, and they finding a strange queen, will attack her, even though they may be but a handful or less. The remedy, is to cage the queen as you did, if you can not scare them out of their notion by a very severe smoking.

I have no difficulty in sawing with my buzz saw when it is properly fed, but the feeding is a little difficult for an inexperienced hand. I think I can work remarkably well on it for the experience I have had. I wish to run it by horse power, since I have a good horse standing in the stable to be cared for two or three times a day. I would like to know of the cheapest effective gearing I could use for that purpose. Probably you could give something on this point that might interest a number of your readers.

ISAAC L. PARKER.

McMinnville, Tenn., March 8th, 1877.

The feeding *is* very important, and if you crowd the saw so as to reduce the speed, you are standing very much in your own way. Will some of our readers who make light running horse powers, please answer? One of our readers once mentioned making a cheap horse power of an old worn out mowing machine. These can be purchased cheaply almost any where.

STIMULATIVE FEEDING.

Do you feed in the spring to promote breeding?

CALVIN OTIS, Stockbridge, Wis.

A few seasons ago, we found spring feeding a benefit, without doubt, but of late there seems to be very good ground for thinking it aggravates spring dwindling. Especially when, we feed during cool spring weather. After the weather gets settled and warm, there is no nicer way in the world to make combs and colonies, if you can only afford to buy the sugar.

COMB HONEY FROM BEES THAT HAVE DIED; GIVING THEM TO NEW SWARMS.

I have lost 3 stocks that left plenty of honey and as they are in movable frames, I think it too bad to destroy the combs to use the honey. I found on examining them that they had not clustered in the centre of the hive, but in two of them, entirely to the south side. There was no brood in one and plenty of bees, in another a few bees almost ready to come out, and a goodly quantity of bees, in the last not many bees and no brood. They all seemed lively and all right through the nice weather in February. Now shall I put new swarms (in case I have any) in those hives where the bees have died without removing the honey?

M. J. ROBINSON.

Toledo, Ohio, March 29th, 1877.

Do not think of destroying the combs by any means. We have repeatedly used such for making artificial swarms, and have hived natural swarms on them; the result was always satisfactory. Fasten the hives up so moths and robbers can not get in, and they will probably be all right until wanted. It will be well to brush the dead bees out of the hives and look them over occasionally to see that no worms have found a lodgement, but the dead bees that remain in the cells can be left for the bees to carry out; they can do it better and cheaper than any one else, and if you watch them, you will see they do it very quickly. Your bees probably died because they had clustered away from the honey, and they are very apt to work over to the south side of the hive, at this season, to get the warmth of the sun as it strikes the south side. On this account we have practiced during March and April, pushing the well filled combs up to this side. The hive that had just hatching brood, it would seem had the modern spring malady, for it usually seems to take off the bees just about as the young are hatching. Very likely the chaff cushions would have saved them. Their starting brood rearing in February, may have been all the worse for them.

I am a beginner and one year ago moved from Michigan to this place, and bought one Kentucky bee-gum which was all I could find in this vicinity for sale, though many kept them. Result, May 20th, first swarm—small—put into an L. hive of my own make—no upper story. Another swarm came out May 30th—both small swarms. July 6th the swarm of May 20th sent out a swarm, and July 14th its second swarm. At this time the honey yield ceased and 3 swarms starved before winter set in. I then commenced to feed the two left, with crushed sugar made into thick syrup. They are still alive and yesterday left the meal and flour and gathered genuine pollen. Over three-fourths of the bees in this vicinity are dead.

Will it pay to transfer into hives and get an extractor with only two swarms to start with? Will it do to put sections in the sides of the hive and extract from the body of the hive? Are section boxes in the sides as good as on top? How do you examine the inside of hive when supers are on top?

I have Quinby's work but am disappointed in it. It seems strange to me that it should be recommended as a standard work; good as far as it goes but how is one to learn the extracting business out of a work that does not treat on that subject. And what about foundation combs, there ought to be a supplement added t work.

H. SCRANTON.

Plummer's Landing, Ky., March 21st, 1877.

The above shows plainly the value of expending a little in sugar rather than let the bees starve. There is quite a chance of getting enough honey from even two colonies, to pay for an extractor, and should they increase as heretofore, you will very soon have an apiary. Transfer them by all means while your number is small, and then it will be as easy to put the new swarms into frame hives, as into the boxes. If you use the section boxes at the sides, we would hardly advise extracting the central combs, lest you let your bees starve again. It is hard to say which position is best for the boxes, but it is pretty certain a strong colony, will need them both at sides and above. Lift off the upper story when you wish to examine the brood combs, to be sure. We are well aware, that both Quinby's and Langstroth's book are almost sure to disappoint one who wishes to become posted up to the times.

SECTION BOXES MADE BY GLUEING.

After trying all ways that I ever heard of or could think of myself for putting together section frames, I find glue the "Boss," that is, if you want them put together solid out of very thin stuff, no grooving, no nailing, and no bother about it. Make several long boxes just the size of inside of section box so that you can put 100 on at a time with a cleat on each side of the long box to hold them in place. I can put together section frames enough in one day to hold all the honey that 100 stocks of bees will make in one season in any locality.

HIRAM ROOP.

Carson City, Mich., March 30th, 1877.

We suppose our friend refers to making boxes out of wide, thin lumber, and then sawing off rings as it were from a number of the long boxes at once. There are several difficulties in the way aside from the great amount of store room that is needed for so many made up. besides the bulky packages they make for shipping. We doubt if the glue joints will be found strong enough in practice to stand the strain of such large saws in sawing them up, although we have made very good boxes in the manner mentioned. We think friend R., you will find you have stated it pretty strong, before you have made many thousand at a cent apiece.

Rec'd Simplicity and contents on the 3d of this month, came through all sound and am well pleased with them. We have one hive put together in our carpenter shop and it takes the eye of everybody that has looked at it. Have 4 colonies, packed in chaff and refuse from flax on the sides and over the brood. It keeps them warm and dry.

BIRD WEBSTER, Bedford, Iowa, April 10th, '77.

Commenced in the spring of 1876 with 10 weak colonies. I increased to 25, with $125.00 net profit. All remained on summer stands through the winter; 6 froze or starved as yours did, the honey on one side of the hive and the bees on the other. In your April price list you say the Quinby smoker has been improved, being stronger and more durable. I think it should be so, for the one I ordered of you last year did not last me half through the season and I know it was not abused; the cover seemed rotton.

BENJ. F. CLARDY, Rolling Home, Mo.

RIPENING HONEY.

You say, "If we are correct, perfectly ripened honey, neither candies nor oozes out of jars and barrels." I have extracted sealed honey and had it to candy or sugar in six weeks; have had the same honey to candy after being placed in a vessel and putting that in another containing water and boiling the water for half an hour; would you not call that honey ripe?

T. B. PARKER, Goldsboro, N. C., April 11th, '77.

I have been in the habit of calling all sealed honey ripe, but the honey we mentioned that did not candy, was clover honey that remained in the hives all summer. Whether such treatment will produce the same kind every time, or whether the honey when gathered had some peculiar property of resisting granulation, are matters on which we are unable to decide. Many of our readers have reported honey that would not candy, and we have been in the habit of ascribing this property to the source from which it was gathered. Who will give us more light on the matter? This honey that will not candy, is certainly the finest flavored clover honey it has ever been our fortune to taste. The flavor is slightly like very fine maple syrup and when held up to the light in a glass jar, it has none of the greenish tinge that is seen in the unripened extracted honey, but has a crystal clearness.

Halloo! Here comes friend Joiner with a word on the subject, and we guess he must be about right, for he generally is.

You are wrong in your conclusion that *ripened* honey won't candy. The ripening process has nothing to do with it. I can tell by the smell whether my honey will candy or not. I can show you honey that has had nothing added to it that will not candy under any circumstances, and other honey that *will* candy under *any* circumstances. Catch a wasp, crush and smell of it, now remember that smell, and when you can smell it in fresh honey, you may bet your "bottom dollar" that honey won't candy. Don't laugh at this but try it.

Hans and I took our bees out April 4th in good order. I have 35 stocks, and no hives made. I have fed ½ bushel rye since. A neighbor had 2 stocks leave their hives and enter others in the cellar, during winter. Did you ever hear of that before? I saw a hive set out of a cellar the other day that had consumed 40 lbs. of honey without a fly. The bodies of the bees were so distended, that they could not fly but crawled out on the ground and died by thousands. They had not been disturbed and a hive sitting by the side of it wintered well.

Your "tract" in last GLEANINGS is valuable, and I will distribute some April No's if you will send me some. Hans is going to make his own hives and frames, but the metal corners make him covetous. He lost all his bees once and he is "going slow," and "learning to peddle" now, and I think will succeed.

R. L. JOINER, Wyoming, Wis.

We never heard of bees deserting their hives in the cellar, but we saw a colony swarm out in the green house,, and cluster on the sash. Was the cellar dark enough? Go slow and work carefully, is a good motto. Our own losses this past winter have been less than 5 per cent—the best result we have ever made, and it was accomplished mainly, by going slow on increase, and being careful to have each colony *just as it should be;* the chaff cushions, were doubtless the means of making the house apiary a success.

We hardly get time to laugh during the months of April and May, but sometimes some one who is just learning, in this vast sea of humanity, makes such a queer mistake, that even our "postal scribes" laugh. Listen:

Enclosed find $2,00 for which please send me by mail one set of iron corners for making frames over, and the balance in comb fdn., about 7 lbs. to the foot.

HENRY CULP, Hilliard, O., April 11th, 1877.

P. S.—GLEANINGS gets *better* and *better*.

Many seem to get our corners mixed up with Quinby's corners for hives, and not a few have queer fancies in regard to the way fdn. should be made, but we do not know that we ever before had a customer who wanted it so thick that 7 lbs. would be required for a square foot. That kind would not "sag," would it friend C.?

CLIPPING QUEEN'S WINGS.

I clip my queen's wings in this way. I cut *both large* wings off very close to the body leaving only the small ones, The beauty of the queen is not impaired and the object is easily effected. The time consumed in the operation is greater but I think one is fully compensated by avoiding the buggy appearance.

RICHARD FERRIS, Belleville, N. Y.

DRONE LARVÆ, HOW TO GET IT OUT.

We commenced the winter with 88 colonies, their condition to date as follows; 78 A No. 1 colonies, 2 queenless, and 2 dead. The balance are rather weaker but will come through. The first natural pollen on the 12th of April. **J. BUTLER.**

P. S.—Tell Bro. Doolittle when he wants to get larvæ out of drone combs, to pump water on the combs, letting it fall 2 feet or more. and most of the larvæ will jump out; afterwards put into extractor and throw out the water.

Jackson, Mich., April 16th, 1877.

The hive was received in fine order, it is very satisfactory to me, and has been viewed with admiration by all our farmers who have kept a few box hives for the last forty years without any returns and want more light.

A. Bradford, Tiverton, R. I.

How many colonies or about how many bees are there in the U. S.? Friend McConnel who is one of the oldest bee men in the South, has made a grand discovery. We have seen frames full of brood capped over 9 days after they were placed in the hive, showing *conclusively* that the bees *constructed* the *comb* during the *first day* the empty frames were given them.

A. C. Littlejohn, New Orleans, La.

It would be a very hard matter to make even a rough guess at the number of colonies, they are increasing at such a rapid rate of late years. There are perhaps 1000 in Medina Co., but our state would perhaps average less than one-fourth that number; may be 20,000 in all. Now if there are 25 states having as many, we should have about a half million in all. If anyone can do better go ahead.

Can't quite agree to your great discovery, until we know just how long it is from the egg until the larvæ is capped over; if we are right, it may be as soon as 6 days, under very favorable conditions, and at other times, as long as 9. If you had a frame filled with sealed brood in 9 days, it was certainly doing extraordinarily well.

A NEW HONEY PLANT.

Enclosed find seeds of the coming honey plant. I do not know its name, but will describe it as well as I can. Some six years ago, Mr. T. G. McGaw, of Monmouth, gave me some seeds of honey producing plants, but I don't know that he told me names. I sowed them along the hedges and fences. A year or so later I noticed the bees working on this plant and it is now spread pretty generally over the county. It is a large coarse grower from 4 to 8 feet in height, coarse leaf, branching top covered with innumerable little balls about the size of No. 1 shot. When in bloom there is just one little flower leaf on each ball which is dark purple, or violet at the outer point and lighter as it approaches the seed ball. The ball has an opening in it at the base of the leaf. The ball is hollow. It is seldom seen in the forenoon without honey shining in it. Take a branch off and turn it down with a sharp shake and the honey will fall in drops. It commences to bloom about the 15th of July and remains until frost. Bees frequent it from morning till night. The honey is a little dark, but of very good quality. I think it would be best to sow in seed bed and transplant and cultivate like tobacco.

Jas. A. Simpson.

Alexis, Ills., April 12th, 1877.

If any of our readers can name the plant from the above description, will they please do so. Also, as our friend has been rather liberal in sending us the seeds, we will mail a few to those who would like to give it a trial.

BAR HIVES, ETC.

Agitation is the beginning of wisdom. Yes, nails will crush bees, but not half so badly as tin corners and not one-tenth as badly as wood.

We like friend Doolittle's criticisms, they are in the right spirit; but when he says a thing *can not* be done, even by a *Yankee*, we think him a little fast.

With the same capital and labor, a skilled apiarist can make more money, we think, with a bar than a frame hive. Adam Grimm never made his money by the use of division boards, etc., but by his skill and extra honey field. We have seen and handled many of his hives and they are the simple, cheap L. hive. We consider Mr. Moore's head level, but we would not care to be in the same neighborhood when Capt. Hetherington closes up his Q. frames of a hybrid colony 60,000 strong, and yet we consider ourselves nearly bee sting proof. So far as J. S. Harbison goes, why he is in honey up to his shoulders or he would not have come out so far ahead with a hive much worse than the Langstroth. If we were in California we would use none but a bar hive, which if properly made, is only the L. hive simplified.

We put 91 stocks in cellar Nov. 12th, and took out, April 7th, 89 alive and in fair order except three that are queenless.

Yours for *dollars* and *cents* on small capital with little labor.

Chas. Hastings & Son.

Carlisle, Iowa, April 16th, 1877.

Friend H. perhaps you'd better invest some of your spare time in trying to crush a bee with the metal corners. If you use the metal rabbets also, you can set your frame down without paying any attention to how many bees are clustered on them; you will have to work nearly all summer to catch a bee, and you can not cut him in two even then, as you can with the nails, without trying very hard. We do not want *our* bees killed at all, but every time we handle the closed Quinby frames, the sight of the little fellows quivering in agony fairly haunts us for hours afterward.

Adam Grimm only obtained about 15 lbs. per colony on an average, before he went to Italy for his Italians. That does not look like an extra "field."

COMBS.

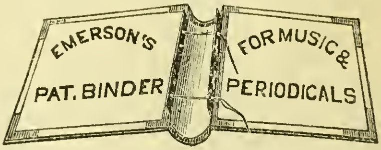
In the Standard Langstroth frame at 25 cents each. My former partners having quit the bee business, we have a quantity of good combs at above price.
4tfd Address F. T. NUNN, Peru, Huron Co., Ohio.

E. W. HALE'S

Price List of Bees, Queens, Etc., for 1877.

1 Full colony .. .. with tested queen.......	$13 00
1 three frame nucleus " " "	5 50
1 " " " " dollar "	4 00
1 tested queen..................................	2 50
1 untested "	1 00

A discount of 10 per cent will be made on all orders of more than $10.00 each. All my queens are raised from *Imported Mothers*, I only guaranteeing the safe arrival *of all tested queens* within 1000 miles. The money must accompany each order, and all orders will be filled strictly in rotation. My location enables me to furnish queens much earlier than parties farther north. Address,
2-10d E. W. HALE, Wirt C. H., W. Va.



You cannot look over the back No's of Gleanings or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said—"Dear me what a bother—I *must* have last month's Journal and it's no where to be found." Put each No. in the Emerson Binder as soon as it comes and you can sit down happy, any time you wish to find any thing you may have previously seen even though it were months ago.

Binders for Gleanings (will hold them for four years) gilt lettered, free by mail for 50, 60, and 75c, according to quality. For table of prices of Binders for any Periodical, see Oct. No., Vol. 2. Send in your orders. A. I. ROOT, Medina, O.

TABLE OF PREMIUMS.

The first column is for those only, who send 5 or more names.

Any of them sent post-paid on rec'pt of price.

Names of Premium Articles.	*Prices of Premiums*	*Number of Subscribers required at* 75c.	*or at* 1.00
1—*Lithograph of Apiary, Implements, etc.*	25	5	2
2—*Photograph of House Apiary*	25	5	2
3—*"That Present," Novice and Blue Eyes*	25	5	2
5—*Emerson's Binder for* GLEANINGS, *will hold 4 Volumes*	50	6	3
6— " " *better quality*	60		3
7—*Pocket Magnifying Glass*	60	7	3
8—*First or second Volume of* GLEANINGS	75		4
9—*Best quality Emerson's Binder for* GLEANINGS	75	8	4
10—*Double Lens Magnifier, on 3 brass feet*	1,00	9	4
11—*Photo Medley, Bee-Keepers of America*	1,00	9	4
12—*First and second Vol. of* GLEANINGS	1,50	10	6
13—*Centennial Cabinet Clock; a pretty and accurate time piece, that will run even when carried about, for only*	$2 00	15	7
14—*A real Compound Microscope, beautifully finished, and packed with Implements in a Mahogany Box*	3 15		8

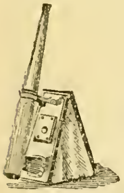
CASH FOR BEES-WAX.

We are paying 32 cents per pound for yellow beeswax, in lots of from 50 to 5,000 or more pounds, delivered at Syracuse, or 33 cents, if exchanged for white wax. If you have any wax on hand, and can deliver it at the above price, please do so, and we will send you our check on receipt of the same.

ECKERMAN & WILL.
7-7-'77 Wax-bleachers. Syracuse, N. Y.

One Hundred Colonies

PURE ITALIAN BEES FOR SALE CHEAP. Send for Circular and Price List. C. C. VAUGHAN.
3-8 in q. Columbia, Tenn.



Improved Quinby Smoker.

Quinby's "Bee-Keeping Explained." Box material for as practical a box as can be made. Glass cheaper than ever before. Queens, Hives, Colonies, Extractors, Hive Clasps, Bee Veils, etc.

Send for Illustrated descriptive Circular. L. C. ROOT,
Mohawk, Herkimer, Co., N. Y.
4tf

100 COLONIES ITALIAN BEES FOR SALE

At $7,50 Per Colony.

4tfd M. PARSE, Pine Bluff, Ark.

W. C. GILLETTE, Leroy, N. Y., Breeder of Pure White Leghorn Fowls. Eggs $2.50 per dozen. SATISFACTION GUARANTEED. Will exchange for a few Stocks of Bees or Nuclei. 3-5

I own latest and best machinery and promptly supply

Pure Beeswax Comb Foundation.

at the following low prices: Made from yellow wax, 70c per lb.; white wax, 90c per lb. Sheets 12 inches wide or less and as long as wanted. Five cells to the inch and 4 to 8 square feet to the pound. Packed in light wooden boxes—paper between the sheets. Sheets cut to any desired size. Ten per cent discount on 50 lbs. or more. Wax delivered here, will be worked up for 35c per lb. or for half the wax. Highest cash price paid for pure wax delivered here. Freight or Express charges to be paid by the purchaser. By mail, add 25c per lb. to above prices. Order early before the summer rush. Sample by mail, 10c.

Enlarged circular, giving prices of Queens, Bees, Hives, Boxes, Extractors, etc., etc., sent free to all. It tells how to introduce queens, how to use foundations, and many useful hints.

5tf J. H. NELLIS, Canajoharie, N. Y.

$1 Queens, Hives, Metal Corners, etc. Also Papers and Magazines, at club rates to single subscribers. Send for circular to
5tf T. B. PARKER, Goldsboro, N. C.

Comb Foundations!

PURE BEES WAX.

Cut to any size desired.

PACKED IN NEAT WOODEN BOXES—PAPER BETWEEN EVERY TWO SHEETS. AT $1.00 PER POUND FOR THE WHITE, OR 75 CENTS PER POUND FOR THE YELLOW.

Or, if you prefer, 12 *&* 16c. *per square foot.*

IF WANTED BY MAIL, ADD 25 CENTS PER POUND FOR PACKING AND POSTAGE.

If taken in our regular packing boxes, sheets 12x18 inches, 10 per cent. off from above prices on 10 pounds or over.

Wax will be worked up to order, and cut into sheets of any size desired, for 40 cents per pound.

We will pay 35 cents per pound cash for bright yellow wax, or sell it for 40.

One pound of wax makes from 4 to 8 square feet of surface. The thinnest will be used by the bees, but is not made into comb as quickly as the heavier, which has a greater depth of cell.

Sheets just right for L. frames, both white and yellow, kept constantly in stock ready for shipment; also square sheets for section boxes. About 6 of the former or 30 of the latter weigh 1 pound.

At above prices we can pay no freight or express charges either way.

The only wholesale rates we can give is 10 per cent. off from above rates on orders for 50 pounds or over, or 20 per cent. on 100 pounds or over.

Comb Foundation Machines.

Machines for making sheets 1 foot wide -	$100 00
Expressly for L. frame, 9 inches wide -	50 00
For making 5 inches for section boxes -	30 00
Double Boiler for above machines, -	$3.00, 3.50 and 4.00
Dipping plates per pair, - -	$1.00, 1.50 and 2.00

The above prices are for cells 4½ or 5 to the inch. If drone size is wanted, add $10, $5 and $3 respectively to above prices. The machines are all ready for use, and full instructions will be sent to each purchaser.

Address. A. I. ROOT, Medina, Ohio.

We have sold machines for making fdn. to C. O. Perrine, New Orleans, La.; to D. A. Jones, Benton, Ont., Canada; to J. M. Madory, Los Angelos, Cal.; J. H. Nellis, Canajoharie, N. Y.; to Lewis Walker, Ventura, Ventura Co., Cal.; to G. M. Dale, Border Plains, Iowa.; to Rev. J. Van Eaton, York, Livingston Co., N. Y., and to G. W. Gates, Bartlett, Tenn. The four former were 12 inch, and the rest, 5 inch machines. We presume all will be ready to furnish fdn. at our prices.

ITALIAN QUEENS FOR 1877.

Queens bred from Imported or home bred stock. Safe arrival guaranteed. Will send you every time just what you order.

Unwarranted queen	$1 00
" " per doz	11 50
Warranted "	1 50
" " per half doz	8 00
" " per doz	14 00
Tested " before July 1st	3 50
" " after " "	2 50
" " " " " 4 for	9 00
" " " " " per doz	20 00
2 frame nucleus (frame 11x12) and tested queen after July 1st	5 00
5 same	20 00
Same and unwarranted queen	4 00
5 " "	17 00

2tf J. OATMAN & CO., Dundee, Ills.

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" British Bee Journal ($2,00)	2,50
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" American Agriculturist ($1.60)	$2.25
" Prairie Farmer ($2.15)	2.90
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Address N. J. AG'L'ST & OUR AM. FARMER,
5-7 20 Cortlandt St., N. Y.

CHEAP HIVES.

Material for standard Langstroth Hives, Portico, 10 frames, beveled edge, bottom board and caps.

in lots of 5 each - - - - - - $1 00
" " 10 " - - - - - - 90
" " 20 " - - - - - - 85
" " 30 or over - - - - - - 80
Sample Hive - - - - - - 1 50

Two story hive and 21 frames furnished low. Material for honey boxes cheap. Address
J. OATMAN & CO., Dundee, Kane Co., Ill.
Write for circular. 2-5d

BOOKS for BEE-KEEPERS and OTHERS.

Any of these books will be forwarded by mail, *post-paid*, on receipt of price.

In buying books, as every thing else, we are liable to disappointment if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them *for sale* it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage, shall not be disappointed, and therefore, I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with a *, those I *especially* approve * *; those that are not up to times †; books that contain but little matter for the price, large type and much space between the lines ‡; foreign §.

BOOKS ESPECIALLY FOR BEE-KEEPRES.

Langstroth on the Hive and Honey Bee**†	$2 00
Quinby's Mysteries of Bee-keeping**†	1 50
Bee-keeper's Text Book*†....muslin	75
" " " *†....paper	40
A Manual of Bee-keeping, by John Hunter*§	1 25
Manual of the Apiary, by Prof. A. J. Cook**	30

This, although small, is the only book we have in America that is entirely up to the times; the best for beginners.

How I Made $350 a Year with my Bees*†§	25
How to make Candy**	50
Art of Saw-filing*‡	75
Lumberman's Hand Book***	15
Fuller's Grape Culturist**	1 50

MISCELLANEOUS HAND BOOKS.

Ten Acres Enough**	1 25
Five Acres too Much**	1 50
Tim Bunker Papers*	1 50
An Egg Farm, Stoddard**	50
Window Gardening	1 50
Purdy's Small Fruit Instructor*	25
How to Use the Microscope	75
Play and Profit in my Garden*	1 50
"Our Digestion," by Dio Lewis**	2 00
Onion Culture*	20
Potatoe Pests, by Prof. Riley **	50
Practical Floriculture*	1 50
Gardening for Profit**	1 50
Strawberry Culturist, Fuller*	20
Small Fruit Culturist, Fuller*	50
Forest Tree Culturist, Fuller*	1 50
How to Build Hot-Houses, Leuchar§	1 50
Draining for Profit and Health, Warring	1 50
What I know of Farming, Horace Greely	1 50
Injurious Insects, Prof. A. J. Cook***	10
Scroll sawing, Sorrento and Inlaid work *‡	1 50
Moody's Best Thoughts and Discourses ***	75

BOOKS THAT I HAVE NEVER EXAMINED, BUT THAT ARE IN GOOD REPUTE.

Broom Corn and Brooms..........paper 50....cloth	75
Cider Maker's Manual, Buist	1 50
American Pomology, Warder	3 00
Canary Birds....................paper 50....cloth	75
Farmer's Barn Book	1 50
Pear Culture, Fields	1 25
American Bird Fancier	30
American Weeds and Useful Plants	1 75
Bement's Rabbit Fancier	30
Bommer's Method of Making Manures	25
Burn's Architectural Drawing Book	1 00
Burr's Vegetables of America	3 00
Cooked and Cooking Food for Domestic Animals	20
Copley's Plain and Ornamental Alphabets	3 00
Dana's Muck Manual	1 25
Darwin's Variations of Animals and Plants, 2 vols.	5 00
Gun, Rod, and Saddle	1 00
Harris on the Pig	1 50
How to Get a Farm and Where to Find One	1 25
How to Use the Pistol	50
Jennings' Horse Training Made Easy	1 25
Johnson's How Crops Feed	2 00
Johnson's How Crops Grow	2 00
Klipparts Wheat Plant	1 75
Leavitt's Facts About Peat	1 75
Mrs. Cornelius's Young Housekeeper's Friend	1 50
Plummer's Carpenters and Builder's Guide	1 00
Skillful Housewife....'	75
American Fruit Culturist, Thomas	3 75
Cranberry Culture, White	1 25
A Simple Flower Garden, Barnard	38
Farming by Inches, Barnard	38
Gardening for Money "	1 50
My Ten Rod Farm "	38
Strawberry Garden "	38
Carpentry Made Easy, Bell	5 00
Fur, Fin, and Feather	50
Fish Culture, Garlick	1 50
How Plants Grow, Gray	1 25
Manual of Botany and Lessons, Gray	3 00
School and Field Book of Botany, Gray	2 50
New Cook Book, Mrs. Hale	2 00
My Farm of Edgewood	1 25
American Angler, Norris	5 50
Rhododendrons, Rand	1 50
Landscape Gardening, Downing	6 50
Guenon on Milch Cows	75
Sorgho, or the Northern Sugar Plant, Hedges	1 50
My Vineyard at Lakeview	1 25
Shooting on the Wing	75
American Wheat Culturist, Todd	1 50
Cotton Planters' Manual, Turner	1 50
Practical Butter Book, Willard	1 00
Youatt on the Hog	1 00
Youatt on Sheep	1 00
Garden Vegetables, Burr	2 50
Fruits and Fruit Trees of America, Downing	5 00
Complete Works on Chemistry, Leibig	2 00
Gardening for Ladies, Loudon	2 00
Riley on the Mule	1 50
Flax Culture (seven prize essays by practical growers)	30
Peach Culture, Fulton's	1 50
How To Paint, Gardner	1 00
Gregory On Cabbages....paper	30
Gregory On Squashes....paper	30
Gregory On Onions....paper	30
Insects Injurious To Vegetation....Plain, $1 00.. With colored plates, $6 50	
Gardening For Pleasure, Henderson	1 50
Hop Culture	30
Jenny June's Cook Book	1 50
Cotton Culture, Lyman	1 50
Manual Of Flax Culture and Manufacture	25
Parsons On The Rose	1 50
Potatoe Culture, (prize essay)....paper	25
Money In The Garden, Quinn	1 50
Pear Culture For Profit, Quinn	1 00
Manual On The Culture Of Small Fruits, E. P. Roe	50
Farm Implements And Machinery, Thomas	1 50
Earth Closets, How To Make Them, Warring	1 00
Gardening For The South	2 00
Cranberry Culture	1 25
Practical Poultry Keeper, Wright	2 00
Peat And Its Uses	1 25
Hedges And Evergreens, Warder	1 50
Book On Birds, Holden	25
Sorghum And Its Products	1 50
Taxidermist's Manual	1 00
Practical Trout Culture	1 50
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Silk Grower's Guide	1 25
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Mushroom Culture	3 00
The Farmer's Receipt Book	50
The Model Potatoe	50
Apple Culturist, Todd	1 50
Willow Or Ozier Culture	25
Youman's Household Science	1 75

Our Homes.

Neither do men light a candle, and put it under a bushel, but on a candle-stick; and it giveth light unto all that are in the house.—Mat. 5: 15.

WHEN I first commenced in the Sabbath School, or rather, when I first presented myself and told them I was ready for any kind of work the Lord had for me to do, they gave me a class of juveniles. At first, I so far stuck to my old life that I imagined myself equal to the task of teaching almost any class; but as the most prominent lesson before me was to learn humility, I, after a little reflection, decided that if I were really capable of filling a higher post, the superintendent would perceive it in due time, and I would eventually get all the promotion I merited. So I went to work with the little boys, resolving that I would do the work that lay before me as well as I knew how. Shortly afterward the teacher who had formerly had the class returned, and I was kept as a kind of reserve teacher to take the place of any one who happened to be absent. At first I was inclined to complain at this, but when I overheard the managers saying this was one of the most difficult places to fill, for no one wanted to be pushed about from one class to another, I resolved that I would fit myself for just that post, *i. e.*, prepare my lesson for either old or young pupils, that I might teach at least tolerably, any class that was offered me. I found that by cultivating a willingness to let our light shine in any direction where it might be needed, keeping down all preferences of our own, and without inquiring whether we thought we could do any good or not, we might get into a particularly pleasant frame of mind ourselves, and into a position where we were pretty sure to be happy, no matter what turned up. Now, there was one class of very bad boys in our school—I wonder if there is not in every school?—and they finally gave me this class one Sabbath, without even informing me that but one teacher could do anything with them, and that he managed principally by main strength. Imagine the shock I felt, when I was greeted with an oath, almost the first thing. I was very soon humbled, very much humbled, and before I had finished, they had taken the conceit out of me pretty effectually. Knowing that I was a young convert, they evidently proposed seeing how much Christian fortitude and forbearance I was possessed of. After school I approached the managers with what must have been a troubled look, and to my astonishment, they burst out laughing, as they asked how I liked the class. After I had mentioned my trials, they thought best to have the worst of the boys expelled, and the class broken up, notwithstanding my request to try them once more. This was done, and the boys have made progress in the wrong way for the past two years, until the recent revival in our town. One of the worst of them is to day, however, exhorting his comrades every evening, to turn from their evil ways, and take the first step in forming a good Christian character.

This boy came to me a few days ago and asked me to call and talk with a poor German Catholic shoemaker, who could talk but little English. As usual, I at first began to think I could do no good, but remembering that on former occasions my efforts in similar cases had been strangely blessed, I decided to go.

As soon as I entered the shop I saw another German, with whom I had been wanting to talk, as he had been very unkind to his wife, and resented any interference when our ministers visited him. His boy was in my class, and I soon had both the men talking earnestly, but the intemperate one evaded any responsibility on his part, by many excuses, as is usually the case. As coming to church would point out clearly the error of his ways, and his past transgressions, he was skeptical, and did not believe in such things. I arose to go, thinking my visit had been almost hopeless, but as I stood up, it occurred to me that the most effectual thing I could do would be to pray with and for them. I stood meditating whether it was really proper to kneel in prayer in such a public place, where customers might be expected to come in at any minute, but as I knew I should feel sorry if I did not do my whole duty, I decided to err on what I thought to be the safe side, and as I asked the Lord to help me to decide upon just such words as was best for the case in hand, I cast my eyes toward the floor. Down among the scraps of leather, my eye caught on a piece of paper that looked familiar; it was a torn fragment of the Bible, and I welcomed it as an answer to my mental prayer. I picked it up and inquired how it came there. No one knew. Very soon my eyes fell on,

But I say unto you which hear, Love your enemies, do good to them which hate you.

And I read from the 27th verse of the 6th chapter of Luke to the 43d. I confess that I did not myself know before, what a beautiful sentiment is therein expressed. After I knelt in prayer, I found my friend in quite a different mood, and was astonished to find that all my own reluctance at calling on people had so far left, that I was ready for another visit. I went into a drug store kept next door, where I knew was a pretty hard skeptic.

"I have been talking to your neighbor about going to our union meetings."

"Yes," said he, "I know you have. The partition is only thin wood, and I have heard it all."

I talked with him some, without his making much reply, but presently he came out with,

"I tell you, Mr. R., if we would all live up to the teachings of the few verses you just read in there, we should all get to Heaven without any trouble."

"So you do believe in the Bible?"

"I believe in that part of it."

He soon went back again to that passage of Scripture, and I found that the simple and plain truths I was so unconsciously trying to impress upon my German friends by reading very slowly and distinctly, had had more weight with him, than anything I could possibly have prepared for the occasion. When he learned, as I was taking my leave, that it was not something I had looked up, but only a fragment I had found among the rubbish, he asked in surprise, how it came there? I told him I thought the Lord placed it there for the very purpose of answering my prayer, and rewarding my faith in the efficacy of coming to Him for help in *all* emergencies. What do you think about it, my friends?

At another time, one of our young converts, a boy who had been a Sabbath breaker, a profane swearer, and one who went with the worst company in our town, came forward, and promised to try to lead a Christian life, in a few days got discouraged, and told some of his friends he was going to give it up. I called on his mother, who was a widow, and learned that he was much in the habit of frequenting a barber's shop kept by a colored woman, and that he had there been told the Christian men of our town were no better than others, and perhaps not as good.

I wonder if there are those among my readers who have said the same thing, or who feel perhaps, an inclination to say it now. If so, may that dear Saviour who loves us all, give me wisdom enough to show you what a fearful thing you are perhaps almost unconsciously doing. The boy had already left off swearing and Sabbath-breaking, had applied to me for a a place to work, and was going straight toward all that was good and noble in life. Would any one of you, for anything, say a word that would induce him to go back to his old habits? Do you know of anything else that makes hard boys relent and come back and listen to the pleading of their mothers?

When I started to visit this place for the purpose of talking to them about discouraging young men who were just starting out for a better life, my heart misgave me as usual, and the more I thought about it the more I felt that it would look singular and out of place, and had I not promised, I fear I should have backed out. Asking the Lord to bless even my blunders, I pushed ahead. The first duty pointed out, was to take these colored people by the hand, and to *wish* to have, as well as to ask them to come to our Sabbath Schools and meetings. Whatever I may have thought before, I now felt it a duty to let my "light shine," even so far as to consider these people brothers and sisters, and then my work was easy. The woman had formerly been a Methodist, but there was no colored church in our town, and she had such good reasons to feel she was considered an intruder, that she had not been to church for a long time. While we were talking, the very young man came in, and pretty soon others. At first they listened, then began shyly to ask questions, and soon we all engaged in singing one of Moody's soul-stirring hymns. When some of them said they would like to be Christians in the way I had presented it, I told them they could start that very minute, and if I am not mistaken, every one of them knelt with me when I knelt in prayer. The tearful eyes, cordial handshaking, and warm invitations that I received to come again, from nearly all, convinced me most emphatically, that I had in no way been out of the path of duty, in having a little prayer meeting right in the middle of the day, in a public barber's shop. The moral I gathered, was to let my "light shine" in every direction where I felt light was needed, even if I did feel it might look singular and a little out of place, when contemplating the work to be done.

In *our* "home," there is a son about 14, who a few weeks ago, seemed to be interested in almost everything else but going to meeting. He would study his lesson leaf a little while if asked to do so by his parents, but it was very clear that he did it more out of obedience than because he felt any interest in it. We, my wife and I, had talked the matter over, and had feared he was drifting into the scepticism that prevailed in our town to such an extent, but yet we hardly knew what we could do about it more than to pray for guidance. When the revival work commenced, I was so busily engaged in the welfare of those in our town who were far on the road to ruin, that I really forgot our own children; for all that, their sharp eyes and ears were taking in the whole work, and when they saw me taking the Bible and going into the homes of some of our less fortunate neighbors, and that these same neighbors who had never been in the habit of attending church soon began to join in the new work that was going on, the evidence to their childish minds, was more convincing than whole chapters of the most eloquent oratory. Our boy has been getting to be so extremely bashful, that we were worried about him. He was so sensitive to ridicule, that he could hardly be induced to even go out in public with his own sister, and when I tried to have him join with us in singing the easy Sabbath School hymns, he was so afraid of his own voice that after coaxing and trying for hours, I was forced to give it up. A few days ago he asked to go to meeting without our mentioning the subject; very soon afterward, while shaking hands with those who came forward, I was astonished to find myself putting out my hand to my own boy. Knowing his sensitive nature, I spoke gently to him and passed on, but his grandmother saw him and in the fullness of her heart said so much that he broke down completely, and sobbed as if his heart would break, something he would not have done for anything in the world, if he could have helped it. Do you think he is afraid of his own voice now? He now speaks in our meetings, sings with the rest, and I hope would not be afraid to do anything he might think right, should his old comrades bring to bear all the ridicule and sarcasm they are master of.

Now then, my friends, if you are anxious that your son shall tread in safe paths where he will be safe from the great mass of temptations that surround him in his teens, will it not be best to let your light shine into the homes of your neighbors, rather than spend too much time in talking and praying with the youths themselves?

I once heard of a good deacon who prayed earnestly one cold bitter day in mid-winter, that the Lord would care for those who were destitute of food, etc. His son, who was a lad in his teens, made the remark that if his father would give him the key to the corn crib, *he* would answer that prayer. The son knew of near neighbors who were really in want. Are not some of us who think ourselves Christians in danger of doing the same thing? Who was nearer right, the son or the father?

IMPORTED QUEENS $5.

We shall receive during June and July queens from one of the best districts in Italy, which we will sell at $5. each. Queens will be delivered at Express office here, or sent at purchasers' risk.

5 C. W. & A. H. K. BLOOD. Quincy, Mass.

THE

British Bee Journal,

Is a large, beautifully printed, and profusely illustrated MONTHLY; clear type and fine heavy paper. It is conducted by CHARLES NASH ABBOTT, Hanwell, W., London, England. Annual subscription, half-a-guinea.

We will send it with GLEANINGS and pay all postage for $2.50.

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our tenth edition circular found in April No., Vol. V., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required*.

Canada postage on *merchandise* is limited to 8¾ oz., and nothing can be sent for less than 10c.

BEES.

Bees, full colony amply provided for winter, in our new two story, chaff hive (described Nov. and Dec. No's .. '76), tested queen from imported mother, safe arrival guaranteed..(Lawn hive $1 more.)..$15 00

The same in a 1 story Simplicity hive.............. 13 00

The same in old style L. hive with portico, etc......12 00

The same with hybrid queen..........................10,00

The same not provisioned for winter (hybrids)........7,00

For an imported queen in any of the above, add $5.00

We think we can prepare bees for shipping safely any month in the year; when we fail in so doing, we will give due notice.

0	Binder, Emerson's, for GLEANINGS..........	50, 60, 75
	Balances, spring, for suspended hive (60 lbs)......	8.00
10	Blocks, iron, for metal cornered frame making....	15
	Barrels for honey, $2.50; waxed and painted....	$3,50

Buzz-saw, foot-power, *complete*; circular with cuts free on application. Two saws and two gauges included. $35 00

0	Buzz-saws. extra, 6 in. 1,50; 7 in., 1.75; 8 inch..	2 00
60	Buzz saw mandrel and boxes complete for 6 inch saws..................	5 00
	The same for 7 and 8 inch saws (not mailable)..	8 00
	Comb Foundation Machines complete....$30 to	100 00
30	Chaff cushions for wintering..................	30
25	Chaff cushion division boards..................	20

Half price without the chaff, and postage 5 and 9c.

20	Candy for bees, can be fed at any season, per lb.	17
20	Corners, metal. per hundred..................	75
25	" " top only..................	1 00
15	" " bottom, per hundred..........	50

On 1,000 or more a discount of 10 per cent. will be made, and on 10,000 25 per cent. The latter will be given to those who advertise metal cornered frames.

	Corners Machinery complete for making......	250 00
10	Clasps for transferring, package of 100..........	25
0	Cards, queen registering, per doz..............	10
2	Cages " all of metal..................	10
2	Cheese cloth, for strainers, per yard..............	10
	Duck, for feeding, and covering the frames—bees do not bite it—per yd. (29 inches wide).....	20
	Extractors, according to size of frame $7 50 to	10 00
	" inside and gearing, including honeygate	5 00
	" wax..................	3 50
7	Feeders. 1 q't, tin, can be used without opening the hive, in warm weather—neat and simple..................	10
25	The same, 6 qts, to be used in upper story...	50
4	Frames with Metal Corners..................	05
5	" " Sample Rabbet and Clasps....	10
10	" Closed end Quinby, nailed	05
0	GLEANINGS, Vol's I and II, each 75c., Vol IV	1 00
0	" Vol. III. second-handed..............	2 00
50	Gearing for Extractor with supporting arm..	1 50
20	Gates for Extractors tinned for soldering...	50

SIMPLICITY BEE-HIVE.

One body and 1 cover in the flat, as sample to work from—one sample frame included.............. 80

One story hive for extractor (body 50c—2 covers 60c—nailing and painting 20c—quilt 25c—10 frames 60c—crating 10c).................. 2 25

One story hive for comb honey is precisely the same as the above, substituting 2 frames of sections for 4 metal cornered frames.................. 2 25

The above 16 sections will be fitted with fdn., and starters ready for the bees, for 15c, and the tin separators added for 10c, making whole complete....... 2 50

The above two hives contain everything used in a 2 story hive. We simply use another body filled with frames or sections, for a 2 story hive.

For a 2 story hive for the extractor, add (to 1 story 2 25) body 50c—nailing and painting 10c—10 frames 60c—crating 5c, making complete 2 story containing 20 frames.................. 3 50

For a 2 story hive for comb honey add (to 1 story 2 25) body 50c—nailing and painting 10c—6 frames of sections 78c—1 metal cornered frame 6c—crating 6c, making complete 2 story containing 7 frames and 64 sections.................. 3 75

If filled with fdn. starters 60c—if also filled with tin separators 40c, making $4 75, if two latter items are wanted.

An upper story filled with sections, fdn. starters and all ready to be set over any L. hive..............$2,75

To prepare the above hives for winter, put in place of the 2 outside frames chaff cushions, price 20c each, and a thick one on top 30c.

Iron frame to gauge size of above hives, and to hold them true when nailing, size 20¼x16 inside.... 75

	CHAFF HIVE FOR OUT DOOR WINTERING, 10 frames below, and 14 frames or 80 section boxes above, well painted and finished complete ....(Lawn hive $1 more.).......	$5 00

These hives, if supplied with stores, will, we hope, need no attention whatever, from the time honey ceases until it comes again the next season.

0	Knives, Honey (½ doz. for $5.25, or $5 by Exp.)	1 00

Labels for honey, in blue and gold, dark bronze and gold, or in white printed in two colors, furnished with your own address, and source from which the honey was gathered, already gummed, post paid by mail, (no order rec'd for less than 250). At these low rates, the full number mentioned *must* be ordered without the change of one single letter of the type..................1000, $3,25; 500, $2,40; 250, $1,80

0	Lithograph of the Hexagonal Apiary........	25
	Lamp, Nursery for hatching queen cells as built	5 00
0	Larvae, for queen rearing, from June to Sept.	25
15	Microscope, Compound, in Mahogany box...	3 00
0	Prepared objects for above, such as bees' wing, sting, eye, foot, etc., each..............	25
0	Medley of Bee-Keepers' Photo's, (150 Photo's)	1 00
0	Magnifying Glass, Pocket..................	50
0	" " Double lens, brass, on 3 feet	1 00
7	Muslin, Indian head, for quilts and cushions per yard, pretty stout, but not good as duck.	10
	Parafine, for waxing barrels, per pound....	20
0	Photo. of House Apiary and Improvements..	25
2	Rabbets. Metal per foot..................	02

SECTION BOXES IN THE FLAT, PER 1,000.

Any dimensions not exceeding 2x5x5................ 10 00

The above is 50 cubic inches; for larger sizes add 10c per 1,000 for each additional cubic inch or fraction of an inch, outside measure. Extra prices for less than 500.

Just right to fit in L. frames, 2x4¼x4¼......... 9 50

85	These are put up in packages (of 64 each) containing just enough for a 2 story hive, 8 to the frame..	60

Sample by mail with fdn.............................. 5

If the grooving for holding the fdn. is omitted, 25c less per 1,000. Sections weigh from 7 to 10 lbs per 100.

10	L. frame made 2 inches broad to hold 8 sections	5
25	The same with 8 sections..................	13
25	The same furnished with fdn. starters all ready for the bees..................	20

Adding tin separators to either of the above will increase the price 5c, and the postage 6c.

4	Section boxes, fancy, hearts, stars, crosses, etc. each	5
3	Sheets of duck to keep the bees from soiling or eating the cushions..................	10
0	Scissors, for clipping queen's wings	40
18	Seed, Alsike Clover, *raised near us*, per lb...	25
18	" Summer Rape. Sow in June and July.	15
0	" Chinese Mustard, per oz..................	25
18	" Mignonette per lb. (20c. per oz.)	1 50
18	" Mellilot, or Sweet Clover, per lb.........	1 00
18	Silver Hull Buckwheat (peck by express, 75c)	10
10	Smoker, Quinby's (to Canada 15c extra)	1 50
5	" Doolittle's..................	25
2	Tacks, Galvanized..................	10
3	Thermometers..................	40
0	Veils, Bee, with face of Brussels net, (silk)..	75
0	The same, all of tarletan (almost as good)...	50
5	Wire Cloth, for Extractors, per foot..........	15
3	" " Queen Cages..................	15

Wire-cloth is tinned, and meshes are 5 and 18 to the inch

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☞ We will pay $1.50 cash, for Vol. III. A. I. ROOT.

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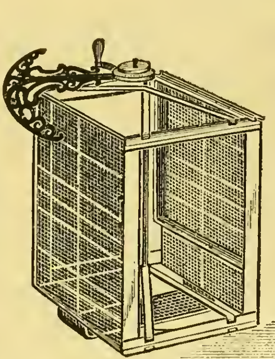
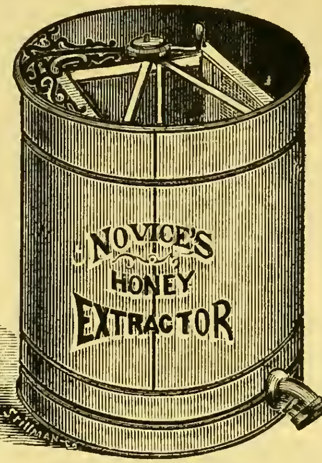
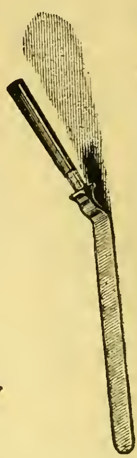
For Gallup frame, $7,50; American frame $7,75; Adair frame, $8,00; Langstroth, $8,00; Quinby, $9,00. No knife included at these prices. All the above sizes kept constantly on hand ready to ship.







Our Honey Knife, Price $1,00, post-paid, is made of fine steel, nicely finished, with a thin keen edged blade that needs no hot water or any such "fussing" to make it uncap nicely.

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Advertisements will be received at the rate of ten cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

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Who agree to make such hives, and at the prices named, as those described on our circular.

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GLEANINGS IN BEE CULTURE

Devoted to Bees and Honey.

And Peace on Earth and Good Will toward Men.

PUBLISHED MONTHLY, AT MEDINA, OHIO,
BY A. I. ROOT.

Vol. V **June, 1877.** **No. 6**

To Many Inquiring Friends.

HOW IT CAME ABOUT—ABOUT PATENT HIVES—WHAT FRAME OR HIVE TO USE—SHALL WE USE AN EXTRACTOR, OR RAISE COMB HONEY?—ITALIANS—THE BEE MOTH.

He got sick, the engraver did, and so I did not get any picture for this month, but if I am to judge from the letters and postals of inquiry that come in, you will probably be better satisfied with the following "opinions", than with any picture I could possibly study up. My friend's have you any idea of what an enquiring people bee-keepers are? I am sorry that I am not wiser, stronger, more patient, and better fitted in every way for the work that seems devolving on me. I know you are willing to pay me for all the trouble you make, for you have already sent me kind letters and money, far more than I have deserved I fear, but then there is such an "awful lot" of you that it makes me feel as if I wasn't yet "big enough," for all this responsibility, and the worst of it is, I am afraid I never shall be.

While I earnestly try to maintain a broad "charity for all, and malice toward none," and while I do not wish to take upon myself the responsibility of dictating a course for others, I feel it a duty to discourage with all my might, both by precept and example, everything in the shape of patented bee hives, or patents on anything pertaining to bee-culture. On the other hand I shall try to encourage every one to do all in their power to advance the common good of all. I do not believe the world "selfish and grasping," but have unlimited confidence in the disposition of our people to desire to pay for everything they get, and to reward those who work for them disinterestedly, when they once get a clear understanding of the matter. If you have made a valuable invention or discovery, give it to the people rejoicing that you have been enabled to contribute your mite to the common good, and in seeing others happy, and sooner or later, you will surely have your reward.

I recommend the Langstroth frame for everybody, and for every purpose whatever, in preference to anything else, and I have pretty thoroughly experimented with all shapes and sizes. There may be other forms that will give just as good results, but I do not believe there are any better. For all general purpose, I advise the Simplicity hive holding ten of the above frames. The hive is made of $\frac{7}{8}$ lumber, and is $20\frac{1}{4}$ by 16 inches outside measure. The Langstroth frames as our gauges make them, are $17\frac{5}{8}$ by $9\frac{1}{8}$ outside measure. As the chaff hive is the same thing with an outer shell to hold the chaff that protects the hive from the winter's frosts, as well as summer's sun, no confusion can result from using both in the same apiary.

Produce just whichever pays best in your own market, and no one can tell so well as you, yourself, can by trying both; you can perhaps produce a nice article of extracted for about 15c., as cheaply as comb honey for 20c. You can produce thin, raw, unripened honey without any trouble for 10c. or less, but it will probably pay you best to give your customers an article as good in every respect as that found in the nicest comb honey.

The comparative advantages of the black or common bees and Italians, is a matter that no longer admits of discussion, and I must consider the very few individuals who write in favor of the former as belonging to that class of unfortunates who seem to delight in being contrary. If tons of honey are to be considered a proof, the matter has long ago been amicably settled in favor of the Italians.

The bee moth need hardly be mentioned now, unless it is to advise you to drive them out with Italians, for whenever they come into a neighborhood, the moths get out without any farther trouble or bother. This one feature alone, is enough to justify introducing Italian queens in place of the blacks.

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Just 2,019 subscribers this 31st day of May, 1877.

IMPORTED QUEENS AT $5.

We shall receive during June and July, queens from one of the best districts in Italy, which we will sell at $5,00 each.

This price being very near cost no discount can be given on the dozen.

We will deliver at express office here in box as received, or forward by mail, as requested.

No queens raised this season or circular issued.

Registered letter or money order sent at our risk.

C. W. & A. H. K. BLOOD,
6-7 P. O. Box 234. Quincy, Mass.

Italian Imported Bees & Colonies.

PRICES GREATLY REDUCED.

Full Colony with Imported Queen.................	$14 00
" " home bred Tested Queen........	10 00

Special rates for large quantities. All the Colonies sold are in *new* and well painted movable frame hives; all combs straight.

1 Imported Queen after June 1st..................	7 00
2 " Queens " " each.............	6 50
6 " " " " ".............	6 00
12 " " " " ".............	5 50
Single Queens to Old Customers.................	6 00

Safe Arrival Guaranteed on Queens and Colonies.

References furnished in nearly every State in the Union and Canada, or among the most noted Apiarians of Europe. Send for Circular to

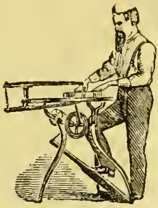
CH. DADANT & CO.,
3d Hamilton, Hancock Co., Ill.

QUEENS. Tested and untested, bred from my choice lot of imported mothers received from Italy last fall. Safe arrival by mail guaranteed at low prices. Satisfaction guaranteed. Circular free.

6 J. M. C. TAYLOR,
Lewistown, Fred'k Co., Md.

WM. W. Cary. Colerain, Franklin Co., Mass. Sixteen years experience in Propagating Queens direct from imported mothers, from the best district in Italy. Persons purchasing Queens or Swarms from me will get what they bargain for: Send for circular. 3 in q.

TESTED QUEENS for $2.50, with 2 frame nucleus full of brood and bees, $6,00, 5 for $25,00; all from Imported mother. warranted queens $1.50. A. I. Root.



BARNES' FOOT POWER MACHINERY.

13 different machines with which Builders, Cabinet Makers, Wagon Makers, and Jobbers in miscellaneous work can compete as to QUALITY and PRICE with steam power manufacturing; also Amateurs' supplies, saw blades, fancy woods and designs. Say where you read this and send for catalogue and prices.

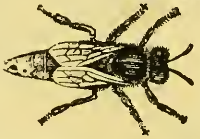
W. F. & JOHN BARNES,
Rockford, Winnebago Co., Ill.

ITALIAN BEES.

Imported and home bred queens; full colonies and nucleus colonies; bee keeper's supplies of all kinds, Queens bred early in the season. Send for catalogue.

9tf DR. J. P. H. BROWN,
Augusta, Ga.

FOR 1877!



Italian Queens and full colonies for sale. Queens raised from select stock. Warranted to be as pure as any in the U. S. Also pure Albino queens. Send for price list containing a description of my Albino bees.

Address D. A. PIKE,
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ITALIAN QUEENS and Bees for sale, at the Italian apiary of
6d E. E SHATTUCK, Los Angeles, Cal.

HONEY BOXES of all sizes or kinds furnished at reasonable rates on short notice, also the Langstroth frames. Give the size of box or section wanted and I will give prices. Address, R R. MURPHY.
6-8 Garden Plains, Whiteside Co., Ils.

ITALIAN QUEENS FOR 1877.

Queens bred from Imported or home bred stock. Safe arrival guaranteed. Will send you every time just what you order.

Unwarranted queen............................	$1 00
" " per doz......................	11 50
Warranted "	1 50
" " per half doz................	8 00
" " per doz.....................	14 00
Tested " before July 1st..........	3 50
" " after " ".........	2 50
" " " " " 4 for.....	9 00
" " " " " per doz..	20 00
2 frame nucleus (frame 11x12) and tested queen after July 1st............................	5 00
5 same..	20 00
Same and unwarranted queen....................	4 00
5 " "	17 00

2tf J. OATMAN & CO., Dundee, Ils.

MUTH'S ADVERTISEMENT.

HONEY JARS!

One pound (square) jars, per gross...............	$6 00
Two " " " "	8 00
One " " " flint glass per gross....	8 50
Two " " " " " "	10 50
Corks for 1 and 2 pound jars........................	75
Tin foil caps, per gross.............................	1 20
Labels " "	75
A thousand labels address printed to order......	5 00
One qt. fruit jars, Mason's patent, per gross.....	17 00
Labels for same. " "	65
A thousand labels address printed to order......	4 00
Uncapping knives, as good as any, each..........	50
" " per dozen.....................	4 50
Alsike clover seed, per bushel......................	13 50
" " " " peck....................	3 50
" " " " pound..................	40
Catnip seed, per pound..............................	6 50
" " " ounce............................	50

Langstroth Bee Hives,

Straw mats, bee vails etc., at reasonable rates.

For further particulars, address
CHAS. F. MUTH, Cincinnati, O.

TABLE OF PREMIUMS.

The first column is for those only, who send 5 or more names.

Any of them sent post-paid on rec'pt of price.

Names of Premium Articles.	*Prices of Premiums*	*Number of Subscribers required at* 75c.	*or at* 1.00
1—*Lithograph of Apiary, Implements, etc.*	25	5	2
2—*Photograph of House Apiary*	25	5	2
3—*"That Present," Novice and Blue Eyes*	25	5	2
5—*Emerson's Binder for* GLEANINGS, *will hold 4 Volumes*	50	6	3
6— " " *better quality*	60		3
7—*Pocket Magnifying Glass*	60	7	3
8—*First or second Volume of* GLEANINGS	75		4
9—*Best quality Emerson's Binder for* GLEANINGS	75	8	4
10—*Double Lens Magnifier, on 3 brass feet*	1,00	9	4
11—*Photo Medley, Bee-Keepers of America*	1,00	9	4
12—*First and second Vol. of* GLEANINGS	1,50	10	6
13—*Centennial Cabinet Clock; a pretty and accurate time piece, that will run even when carried about, for only*	$2 00	15	7
14—*A real Compound Microscope, beautifully finished, and packed with Implements in a Mahogany Box*	3 15		8

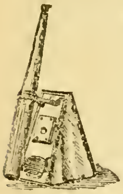
CASH FOR BEES-WAX.

We are paying 32 cents per pound for yellow beeswax, in lots of from 50 to 5,000 or more pounds, delivered at Syracuse, or 33 cents, if exchanged for white wax. If you have any wax on hand, and can deliver it at the above price, please do so, and we will send you our check on receipt of the same.

ECKERMAN & WILL.
7-7-'77 Wax-bleachers, Syracuse. N. Y.

One Hundred Colonies

PURE ITALIAN BEES FOR SALE CHEAP. Send for Circular and Price List. C. C. VAUGHAN.
3-8 in q. Columbia, Tenn.



Improved Quinby Smoker.

Quinby's "Bee-Keeping Explained." Box material for as practical a box as can be made. Glass cheaper than ever before. Queens. Hives. Colonies, Extractors, Hive Clasps, Bee Veils, etc.

Send for Illustrated descriptive Circular. L. C. ROOT,
Mohawk, Herkimer, Co., N. Y.
4tf

100 COLONIES ITALIAN BEES FOR SALE

At $7,50 Per Colony.

4tfd M. PARSE, Pine Bluff, Ark.

I own latest and best machinery and promptly supply

Pure Beeswax Comb Foundation.

at the following low prices: Made from yellow wax, 70c per lb.; white wax, 90c per lb. Sheets 12 inches wide or less and as long as wanted. Five cells to the inch and 4 to 8 square feet to the pound. Packed in light wooden boxes—paper between the sheets. Sheets cut to any desired size. Ten per cent discount on 50 lbs. or more. Wax delivered here, will be worked up for 35c per lb. or for half the wax. Highest cash price paid for pure wax delivered here. Freight or Express charges to be paid by the purchaser. By mail. add 25c per lb. to above prices. Order early before the summer rush. Sample by mail, 10c.

Enlarged circular, giving prices of Queens, Bees, Hives, Boxes, Extractors, etc., etc., sent free to all. It tells how to introduce queens, how to use foundations, and many useful hints.

5tf J. H. NELLIS, Canajoharie, N. Y.

Greenbacks Wanted!

Will exchange queens for the above named article. Unwarranted queens $1,00. Warranted $1.50. Also Papers and Magazines at club rates to single subscribers. Send for circular to

6tf T. B. PARKER, Goldsboro, N. C.

REMOVAL.

The Brooks Bro's. have removed their Apiary *from* Columbus to Elizabethtown, Ind., and would be pleased to send you their new circular. Send for it before purchasing your queens or bees.

Address, J. M. BROOKS & BRO.,
4-9 Elizabethtown, Ind.

BEFORE PURCHASING

Supplies for your Apiary, send a Postal Card for our Price List of Hives, Frames, Sectional and other Boxes of any desired pattern. Comb Foundations, Metal Corners and Tested and Untested Queens from Imported mother. J. C. & H. P. SAYLES,
3-8d Hartford; Wis.

Comb Foundations!

PURE BEES WAX.

Cut to any size desired.

PACKED IN NEAT WOODEN BOXES—PAPER BETWEEN EVERY TWO SHEETS. AT $1.00 PER POUND FOR THE WHITE, OR 75 CENTS PER POUND FOR THE YELLOW.

IF WANTED BY MAIL. ADD 25 CENTS PER POUND FOR PACKING AND POSTAGE.

If taken in our regular packing boxes, sheets 12x18 inches, 10 per cent. off from above prices on 10 pounds or over.

Wax will be worked up to order, and cut into sheets of any size desired, for 40 cents per pound.

We will pay 35 cents per pound cash for bright yellow wax, or sell it for 40.

One pound of wax makes from 4 to 8 square feet of surface. The thinnest will be used by the bees, but is not made into comb as quickly as the heavier, which has a greater depth of cell.

Sheets just right for L. frames, both white and yellow, kept constantly in stock ready for shipment; also square sheets for section boxes. About 6 of the former or 30 of the latter weigh 1 pound.

At above prices we can pay no freight or express charges either way.

The only wholesale rates we can give is 10 per cent. off from above rates on orders for 50 pounds or over, or 20 per cent. on 100 pounds or over. For 500 lbs. or over, 50 cents per pound.

Comb Foundation Machines.

Machines for making sheets 1 foot wide -	$100 00
Expressly for L. frame, 9 inches wide -	50 00
For making 5 inches for section boxes -	30 00
Double Boiler for above machines, -	$3.00, 3.50 and 4.00
Dipping plates per pair. - -	$1.00, 1.50 and 2.00

The above prices are for cells 4½ or 5 to the inch. If drone size is wanted, add $10, $5 and $3 respectively to above prices. The machines are all ready for use, and full instructions will be sent to each purchaser.

Address, A. I. ROOT, Medina, Ohio.

We have sold machines for making fdn. to C. O. Perrine, New Orleans, La.; to D. A. Jones, Benton, Ont., Canada; to J. M. Madory, Los Angelos, Cal.; J. H. Nellis, Canajoharie, N. Y.; to Lewis Walker, Ventura, Ventura Co., Cal.; to G. M. Dale, Border Plains, Iowa.; to Rev. J. Van Eaton, York, Livingston Co., N. Y.; to G. W. Gates, Bartlett, Tenn.; to Wm. S. Hersperger, Frederick City, Md.; to Wm. Raitt. Liff by Dundee, Scotland; to W. R. Bishop, Sherwood. Ill.; to James B. Hawkes, Arlington Heights, Ill., and to W. S. Boyd, Bethany, Ohio.

The four former were 12 inch, and the rest, 5 inch machines. We presume all will be ready to furnish fdn. at our prices.

CLUBBING LIST.

We will send GLEANINGS—

With The American Bee Journal	($2.00)	$2.50
" The Bee Keeper's Magazine	(1.50)	2.00
" Both The above Bee Journals of America		4,00
" British Bee Journal	($2,00)	2,50
" All Three		5,50
" American Agriculturist	($1.60)	$2.25
" Prairie Farmer	($2.15)	2,90
" Rural New Yorker	($2.50)	3,25
" Scientific American	($3.20)	3,90
" Fruit Recorder and Cottage Gardener	($1.00)	1,75

[Above rates include all Postage.]

E. W. HALE'S
Price List of Bees, Queens, Etc., for 1877.

1 Full colony .. .. with tested queen	$13 00
1 three frame nucleus " " "	5 50
1 " " " " dollar "	4 00
1 tested queen	2 50
1 untested "	1 00

A discount of 10 per cent will be made on all orders of more than $10.00 each. All my queens are raised from *Imported Mothers*, I only guaranteeing the safe arrival *of all tested queens* within 1000 miles. The money must accompany each order, and all orders will be filled strictly in rotation. My location enables me to furnish queens much earlier than parties farther north. Address,

2-10d E. W. HALE, Wirt C. H., W. Va.

COMB FOUNDATION.

Having purchased a machine for my own use I will furnish the fdn. in strips any length by 5 inches or less wide at 75c. per lb. if I can get the

Bees-wax Wanted.

I will pay 30c. cash for clean yellow wax delivered here. I refer to the Editor of this Journal.

GEO. M. DALE.
Border Plains, Webster Co., Iowa. 6

BOOKS for BEE-KEEPERS and OTHERS.

Any of these books will be forwarded by mail, *post-paid*, on receipt of price.

In buying books, as every thing else, we are liable to disappointment if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them *for sale* it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage, shall not be disappointed, and therefore, I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with a *, those I *especially* approve * *; those that are not up to times †; books that contain but little matter for the price, large type and much space between the lines ‡; foreign §.

BOOKS ESPECIALLY FOR BEE-KEEPRES.

Langstroth on the Hive and Honey Bee**†	$2 00
Quinby's Mysteries of Bee-keeping**†	1 50
Bee-keeper's Text Book*†....muslin	75
" " " " *†....paper	40
A Manual of Bee-keeping, by John Hunter*§	1 25
Manual of the Apiary, by Prof. A. J. Cook**	30
How I Made $350 a Year with my Bees*†§	25
How to make Candy**	50
Art of Saw-filing*‡	75
Lumberman's Hand Book***	15
Fuller's Grape Culturist**	1 50

MISCELLANEOUS HAND BOOKS.

Ten Acres Enough**	1 25
Five Acres too Much**	1 50
Tim Bunker Papers*	1 50
An Egg Farm, Stoddard**	50
Window Gardening	1 50
Purdy's Small Fruit Instructor*	25
How to Use the Microscope	75
Play and Profit in my Garden*	1 50
"Our Digestion," by Dio Lewis**	2 00
Onion Culture*	20
Potatoe Pests, by Prof. Riley **	50
Practical Floriculture*	1 50
Gardening for Profit**	1 50
Strawberry Culturist, Fuller*	20
Small Fruit Culturist, Fuller*	50
Forest Tree Culturist, Fuller*	1 50
How to Build Hot-Houses, Leuchar§	1 50
Draining for Profit and Health, Warring	1 50
What I know of Farming, Horace Greely	1 50
Injurious Insects, Prof. A. J. Cook***	10
Scroll sawing, Sorrento and Inlaid work *‡	1 50
Moody's Best Thoughts and Discourses ***	75
Moody and Sankey's Gospel Hymns, words only	06
" " " words and music, paper	30
" " " " " boards	35

BOOKS THAT I HAVE NEVER EXAMINED, BUT THAT ARE IN GOOD REPUTE.

Broom Corn and Brooms....paper 50....cloth	75
Cider Maker's Manual, Buist	1 50
American Pomology, Warder	3 00
Canary Birds....paper 50....cloth	75
Farmer's Barn Book	1 50
Pear Culture, Fields	1 25
American Bird Fancier	30
American Weeds and Useful Plants	1 75
Bement's Rabbit Fancier	30
Bommer's Method of Making Manures	25
Burn's Architectural Drawing Book	1 00
Burr's Vegetables of America	3 00
Cooked and Cooking Food for Domestic Animals	20
Copley's Plain and Ornamental Alphabets	3 00
Dana's Muck Manual	1 25
Darwin's Variations of Animals and Plants, 2 vols.	5 00
Gun, Rod, and Saddle	1 00
Harris on the Pig	1 50
How to Get a Farm and Where to Find One	1 25
How to Use the Pistol	50
Jennings' Horse Training Made Easy	1 25
Johnson's How Crops Feed	2 00
Johnson's How Crops Grow	2 00
Klipparts Wheat Plant	1 75
Leavitt's Facts About Peat	1 75
Mrs. Cornelius's Young Housekeeper's Friend	1 50
Plummer's Carpenters and Builder's Guide	1 00
Skillful Housewife	75
American Fruit Culturist, Thomas	3 75
Cranberry Culture, White	1 25
A Simple Flower Garden, Barnard	38
Farming by Inches, Barnard	38
Gardening for Money "	1 50
My Ten Rod Farm "	38
Strawberry Garden "	38
Carpentry Made Easy, Bell	5 00
Fur, Fin, and Feather	50
Fish Culture, Garlick	1 50
How Plants Grow, Gray	1 25
Manual of Botany and Lessons, Gray	3 00
School and Field Book of Botany, Gray	2 50
New Cook Book, Mrs. Hale	2 00
My Farm of Edgewood	1 25
American Angler, Norris	5 50
Rhododendrons, Rand	1 50
Landscape Gardening, Downing	6 50
Guenon on Milch Cows	75
Sorgho, or the Northern Sugar Plant, Hedges	1 50
My Vineyard at Lakeview	1 25
Shooting on the Wing	75
American Wheat Culturist, Todd	1 50
Cotton Planters' Manual, Turner	1 50
Practical Butter Book, Willard	1 00
Youatt on the Hog	1 00
Youatt on Sheep	1 00
Garden Vegetables, Burr	2 50
Fruits and Fruit Trees of America, Downing	5 00
Complete Works on Chemistry, Leibig	2 00
Gardening for Ladies, Loudon	2 00
Riley on the Mule	1 50
Flax Culture (seven prize essays by practical growers)	30
Peach Culture, Fulton's	1 50
How To Paint, Gardner	1 00
Gregory On Cabbages....paper	30
Gregory On Squashes....paper	30
Gregory On Onions....paper	30
Insects Injurious To Vegetation....Plain, $1 00.. With colored plates, $6 50	
Gardening For Pleasure, Henderson	1 50
Hop Culture	30
Jenny June's Cook Book	1 50
Cotton Culture, Lyman	1 50
Manual Of Flax Culture and Manufacture	25
Parsons On The Rose	1 50
Potatoe Culture, (prize essay)....paper	25
Money In The Garden, Quinn	1 50
Pear Culture For Profit, Quinn	1 00
Manual On The Culture Of Small Fruits, E. P. Roe	50
Farm Implements And Machinery, Thomas	1 50
Earth Closets, How To Make Them, Warring	1 00
Gardening For The South	2 00
Cranberry Culture	1 25
Practical Poultry Keeper, Wright	2 00
Peat And Its Uses	1 25
Hedges And Evergreens, Warder	1 50
Book On Birds, Holden	25
Sorghum And Its Products	1 50
Taxidermist's Manual	1 00
Practical Trout Culture	1 50
Farming For Boys	1 50
Silk Grower's Guide	1 25
Painter, Guilder and Varnisher	1 50
Mushroom Culture	3 00
The Farmer's Receipt Book	50
The Model Potatoe	50
Apple Culturist, Todd	1 50
Youman's Household Science	1 75

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

Vol. V. JUNE 1, 1877. No. 6

A. I. ROOT,
Publisher and Proprietor,
Medina, O.

Published Monthly.
Established in 1873.

TERMS: $1.00 Per Annum in Advance; 3 *Copies for* **$2.50; 5** *for* **$3.75; 10** *or more,* 60c. *each. Single Number* **10c.**

REPORT FROM GEORGE GRIMM.

DURING this spring and summer I intend to sell out my own bees, (about 140 colonies) not because I do not like the business or because it does not pay, but because I wish to go to college and devote my time exclusively to study. I have lost only 6 swarms during this winter and spring, and with one of those I had been experimenting in the fall. The rest are nearly all in excellent condition. They were wintered in a deep cellar. The weather is warm here this spring, a striking contrast to the wet cold weather of last spring. The bees in the neighborhood that have survived the winter, are generally in a better condition than last year at this time, although heavy losses have been sustained by some of the bee-keepers of this county.

MEAL FEEDING, CAUTION.

I have seen in one the bee papers that a bee-keeper advises to feed the bees as much rye flour in the spring, when they can get no pollen, as they will take. I consider it a mistaken idea and he will find it so. It is certainly good to feed the bees rye flour in the spring to stimulate them to brood rearing, but only so much as they will easily consume in a short time. I have found by experience that if bees are fed too abundantly with rye flour they will store it away, where it becomes hard; so hard that they will never be able to get it out of the cells again without biting away the combs with it; then again they have no room left for natural pollen when they will be able to collect it. Some advise not to feed *any* rye flour; but when bees must rear brood and have no pollen, they must have some substitute for it. I have found this spring, strong colonies with plenty of honey, having no trace of bee bread in consequence of which they quit brood raising. Such swarms it is absolutely necessary to give access to flour, unless there is a good prospect that they will soon be able to gather elsewhere. A few of my bees are getting short of honey and I am now at work feeding them. I think there is prospect of a good honey year. Surely we ought to have a good one after these two poor ones, and this last severe winter.

In regard to selling bees: Mother shipped to very distant parts and all but a few arrived safely. Concerning those, she settled all satisfactorily. I know this to be the case, as I personally supervised all the work and in a large measure cared for the bees myself. . This spring the advertisement appeared again, and already several large orders have come in. I feel confident that she will be able to sell all she has.

Jefferson, Wis., April 20th, 1877.

We have never found any such trouble with meal feeding as friend Grimm mentions, but we think it quite probable in localities where they gathered natural pollen to excess. With us, we never knew too much pollen in a hive, yet we have letters from friends stating they find it a great nuisance at times.

MEAL EEEDING; DOES IT EVER DO HARM?

Since writing the above, we have found in front of one of the hives we bought of neighbor Blakeslee, some white lumps of the shape of the bottom of cells of a honey comb. On biting these, which were nearly as hard as bullets, we found they were in reality flour, and an examination of the hive showed that the bees had literally torn down a great part of one comb in their efforts to dislodge the hardened flour. The flour when made into pollen and deposited in their cells, is a smooth sweetish paste, and it would seem that they had found natural pollen after having stored quite a quantity, and liking the latter better, had allowed the flour paste to harden by drying. When they were ready to use the comb, it seems they had a "nut to crack," that was too hard for "bee sense," and so they excavated the blocks, and tumbled them out, comb and all. This is certainly rather a bad fault of the meal feeding, but as it has never occurred in our apiary before we think it will do no harm if the meal is gradually withdrawn, as soon as natural pollen begins to come in.

◆

SOME QUERIES FROM ARKANSAS.

FOR several years of my life I have had a few colonies of the common black bees in the common box or log hives to which I gave the usual attention—robbing them once or twice a year. It is unnecesary to tell you my "luck," for everything depends on *luck*, you know, so say the old folks. Well, "luck or no luck" I clearly saw it did not pay to be "bothered" with them, and concluded to change my luck either for better or worse by substituting the Italian for the black bee and the American hive for the box. Two years ago, having then 5 colonies of blacks, I sent to Iowa and got 3 Italian queens and from the 3 queens and 5 colonies I now have 55 colonies pure Italians and hybrids, principally in the American hive. I have sold 9 colonies, making in all 64 from the beginning, my business calling me away from home during the swarming season. Many swarms went to the woods. So you see my luck changed. Swarming has already commenced, and I am having on an average about two swarms a day, and have no idea how many I shall have. Perhaps it would be well enough to state that I have wintered my bees on their summer stands, and have not lost a single colony except a very late swarm which was put in a box hive and starved to death in the spring.

Would you advise me to continue with the American hive? [No.] If so, can I not make frames more profitable than boxes by simply converting it into a double story hive and working the same frame in both stories? [Frame is too deep for two stories to work to advantage.] How would it do to have a double hive setting horizontally and work the frames end to end? [The plan has been well tested, and is discarded generally.] Can the extractor be used on new comb in very hot weather without injuring the comb? [Most certainly.] Is not the swarming propensity of the Italian bee an objection to it? [Not with the extractor, and we hope not in any case.] Are not the Italians less disposed to work in boxes than the black bees? [We believe not if rightly managed.] Are the Italians as good comb producers as the black bees? [We think them better, *all things considered.*] **James M. Talkington.**

Searcy, Ark., May 1st, 1877.

TOO MUCH "FUSSING" WITH BEES, &c.

I HAVE just been taking a forced lesson on wintering bees, and as it may serve to allay to some extent, the nervousness felt by some on that subject, I send you an account of it. On the 23d of October last, after dark, two stocks of bees, one a hybrid, the other a pure Italian, disappeared mysteriously; on the 16th of April the hives were found in a thicket of hazel brush where they had been all winter. The hive that had contained the Italians was empty, but the hybrids were in a prosperous condition notwithstanding the fact that the entrance 5 inches long and ¾ high had been open and no cover on except a two inch plank and boards which were put on so loosely that a wood mouse had made a nest on top of the frames out of the double thickness of sheeting, the only winter covering provided for them when stolen. The frames were let down 4 inches from the top of the hive which space was open all winter.

Do not folks fuss with their bees too much as a general thing? On the 25th of Nov. '75, I set 40 stocks in the cellar four deep, entrances closed tight and two thicknesses of sheeting on top of the frames, the caps off, but the bees shut in; and kept them so until the latter part of March without losing any. In the spring four were robbed; but the remaining 36 increased to 100 and with their increase, gathered upwards of 4300 lbs. of honey, about one-third comb and the rest extracted.

Last winter I set 97 stocks in the cellar in rows, hives one upon the other four deep, with the bees shut in tight and lost none. Over the frames I placed sheeting doubled, or newspapers, (the latter are better), and in one instance a sheet of tin; all wintered equally well. I have never lost any in the cellar except those that I fed and kept shut in the hive while feeding, **Jerome Wiltse**, Rulo, Neb.

Perhaps it will be as well to be a little careful about taking a positive position on any of these questions, inasmuch as bees at times winter well under almost any circumstances; again they winter *badly* under almost any circumstances. If the bees are healthy, and have an abundance of sealed stores—very likely the latter secures the former—they generally get through all right whether in the cellar or outdoors, covered or uncovered; and even shutting them in the hives, if everything is all right, seems to cause them no annoyance.

NATURAL SWARMING, VERSUS ARTIFICIAL QUEENS, SECTION BOXES, &c.

IT seems friend McGaw has got a hobby too as well as friend Doolittle. *We*, do not have hobbies; O no!

Is it not strange that some stocks (same ones year after year) always come out strong? Take for instance the first colony I ever owned, bought in 1863—shipped it west from Monmouth the 13th of August, 1866. It always winters and I never knew a season it did not give some *box* honey. Same way with another made from the above in 1867, and several others. Now it won't do to say they had better treatment than others; they might possibly have better queens, but how does it happen they *always* have better queens? They mostly have young queens, for when I ship a tested queen I always take her from a full colony. The queen in No. 1 was hatched in the hive about June 20th, '66; this stock swarmed in Oxford, Ohio, June 13th, '66. The queen lived till May 1870, when she was superseded, lacking a month of being four years old. I do not remember what became of the next queen, I probably sold her. In the summer of 1873 I gave this stock an artificial queen raised from my imported queen. Last summer this queen brought off a swarm in July. This spring I find the queen is failing very fast and not able to keep her stock up. Natural queens are by far the best as I have proven to my satisfaction the past two seasons. Last season I allowed most of my stocks to swarm naturally, then took out all queen cells and gave them a laying queen if I possibly could.

Hollingworth, Kellogg, and myself are yet undecided as to style of honey box or section frame to use for surplus honey. Kellogg thinks some of the Harbison section frames, I like your 4¼x4¼ very much. You use *too little wood* and the H. section frame has *too much*, at least this is *my view* of them. I would be glad if we could all use the same one for there is getting to be too much honey in this region for Monmouth to consume; and we must this season ship our honey to Chicago or some other place. If we all use the same section or frame we can all use the same kind of package to pack it in and select some person to go with the honey and sell it.

It seems to me were I to take out 4 frames from my Langstroth hives and insert 2 frames at sides with 4¼x4¼ sections, some of my queens would object to my infringing on their territory. Have you tried the sections in this way? Don't your queens go over and lay eggs in the combs in them? I was thinking of using them only in the upper story. I am making 150 L. hives *exactly alike in size;* my covers are not fastened (nailed) to the caps. By adding, say 3 inch caps to those I use on the hive I can soon make two story hives of them. Messrs. Sayles of Hartford, Wis., sell you 4¼x4¼ sections or any size within reason for 75c per hundred. **T. G. McGaw.**

Monmouth, Ills., April 26th, 1877.

We too have colonies that are good every year, and whose queens lay profusely until they are three years old, yet they are not always natural queens. We have been tempted to think queens reared during the swarming season, were more likely to be long lived or prolific, yet even that may be only the result of indirect causes. We might find it difficult to raise long lived queens every time, but we are pretty sure we could with few bees and very old larvæ, raise a *poor* queen every time we tried. Good queens are one of the great aids, in getting tons of honey, and we think it very likely friend M., that a beginner would get more good ones by natural swarming, than by raising artificial ones; but how shall we do this and keep our stock pure? Won't friend Doolittle please tell? He has had lots of experience with swarming, and if he sticks to such small hives, will doubtless have lots more.

You can put 7 frames of brood in a hive, and have a frame of sections at each outside, and 7 L. frames give more space than the 8 Gallup frames that Doolittle uses. If you have a queen that can fill more, let her have them by all means, and put on an upper story. You will find that 7 frames filled with brood—clear to the outside bars—as Dean and Doolittle have them, is about as much brood as is often seen in one hive. While we are about it we wish to say that we think we can with the chaff cushion division boards, build up colonies full as fast with the L. frame, as they can with their Gallup frames. Especially when our queens are all daughters of imported stock.

MAKING STOCKS QUEENLESS, DURING THE HONEY SEASON.

I SAW a few days ago for the first time Mr. Doolittle's question to me in Sept. No. about my statement of the product from a colony which I had unwittingly deprived of its queen in dividing. As the question is pertinent and of importance just now, I will reply. I am sure they had no queen until they reared one. As the one taken was a fine Italian bought of Nellis in '75, I knew it in the new colony. Another evidence is the fact that this new colony are pure Italians while the present stock are hybrids now. The work done by this queenless colony was the heaviest I ever had, and I had them at work in three tiers of sections one over the other. This question is important and shows how much we are at sea—even the best informed. Is it not an evidence that no rules can be laid down in this or in much else that pertains to apiculture?

SMOKERS, "HOW TO FIX 'EM."

I am sorry to see the irritation regarding smokers, shown in the May No. of GLEANINGS and the *A. B. J.* My own Quinby had its cover all eaten off by mice last winter. I procured a fine piece of sheepskin lining of a shoe dealer and fitted and glued it in a few minutes. It is now better than new. Cut paper pattern to go round and lap over edges ¼ inch. If the spring gives out make one or get one from the maker but don't scold. "Book men" should keep their temper.

Let kerosene oil be rubbed on bee stings but keep it away from bees.

GLOVES.

I must except to the objections to the use of *gloves.* Take a pair of gauntlets. buck or lined sheep skin, worn ones will do, and cut off the ends, say half of fingers and thumbs, and use and try, when obliged to do work with cross bees, hybrids or others. With the veil, one is saved the tears which even Novice shed when pulling out stings. I had to overhaul one colony last week and though they tried hard to drive me away I finished my work after stopping to laugh at the antics of hens and chickens near by, attacked and stung. When honey is coming in there is no need of protection, but there is none here now, and bees are cross.

Now as to the tiering up that Mr. Doolittle objects to. Is it not clear that the L. frame is better adapted to it than the Gallup or any deeper frame? Besides; the first should not be lifted until nearly ready to be capped over, or partly capped. With the suspended frame sections Mr. Doolittle's plan may be adopted by starting in first story and lifting up; and really the two 4¼ inch sections are no farther above brood in L. frame than one 6 inches would be in G. frames. By taking off promptly all finished frames, it works well.

J. W. PORTER.

Charlottesville, Va., May 7th, 1877.

We have several times known of enormous yields of honey being obtained from queenless colonies, or rather from colonies that were rearing a queen, but we believe the contrary is the rule, especially where we are working for comb honey.

We beg pardon, if our remarks about smokers were unnecessarily unkind to anyone. Where any article is made of leather, is there not always a liability of getting a poor piece now and then? We once wore a pair of boots through two winters, but on going to the same maker for a second pair, got some so poor that they broke out in holes in less than a month. We took them back, but the poor man looked so troubled and unhappy over them that we concluded to say nothing about damages, as he had evidently been unfortunate in selecting his stock. If you get a poor piece of leather in one smoker in a hundred, will it not be best to repair it at home as friend P. suggests? We do not make them, but suggest the measure, out of kindness to Mr. L. C. Root, who we know is trying hard to make them all satisfactory, and the complaints are very few, compared with the large number sold.

We have published everything we could find, favorable toward gloves but not a quarter of the complaints. Do you not think they present rather a poor showing? Several who have paid $2,00 or more, offer to trade them at very low figures.

It is such an easy matter to test the sections, that there is hardly room for argument. Hang a frame of them in your hive, and see if they do not work handsomely.

If you can not bring your hybrids into subjection with plenty of smoke, you had better let them alone. Where bees are in such a mood that they will sting your hands, the hens, chickens, and everybody and thing promiscuously, there is something wrong that should be righted. Kill the queen and put in a better one, if you can do no better, and choose a time when they are better natured to do it.

IMPORTED QUEENS.

EVERY No. of GLEANINGS speaks of imported queens as though you thought there could be no mistake as to their purity. Now the queen I got of J. Shaw & Son, should have been from an imported mother, as their name is marked with a *, but she is certainly hybrid and a very poor specimen at that. Mr. Dasher of this county who has been raising queens for sale several years, last spring got an imported queen of Mr. Dadant, expecting to go into queen rearing more largely with imported stock and succeeded in raising queens enough to supply all his stock before he had any tested; but lo and behold every queen proved to be hybrid, thus cutting short his expected income from an imported mother.

J. W. D. CAMP.

Preble, Ohio, May 6th, 1877.

We fear you are laboring under the very common impression friend C., that the bees from an imported queen should be yellow. Our own imported queen, received from Dadant, is dark herself, and her bees are the darkest Italians we have in the yard. A few days ago we visited friend Dean, and we really believe we should have pronounced the workers hybrids had he not assured us they were from his imported queen. When examined, we found them very gentle, and very much inclined to hang to the combs, which ordinary hybrids of the same color, would never do. We can swing a comb of bees from our imported hive round our head, without a bee taking wing, while bees that have the least taint of black blood, will run down to the corners of the frame and fall while it is held still. Our house apiary was stocked with queens reared from our imported, and the bees this spring are large, strong, handsome and much lighter colored than those reared from the imported queen; and best of all, they seem to be just as vehement honey gatherers as the bees from the old hive. Queens reared from an imported mother are by no means necessarily *pure;* were such the case, we should charge $3,00 instead of one. It would be strange indeed, were there not those who will not be satisfied with imported stock, for there is not one thing in bee culture that pleases *all* our readers. We by no means wish to intimate that they are difficult to please, but only to show how great is the variety of tastes and preferences. Italians, fdu., extractors, section boxes, Simplicity hives, &c., &c., all find denouncers, and we even find good pleasant people who complain of the whole business of bee-keeping. Shall we not have a broader charity, and a better opinion of our fellow men? Shaw & Son are men who can be depended on to do exactly as they agree every time, we are happy to say. It is our opinion, that we should be perfectly satisfied with the bees you have spoken of, and if not too much trouble, we would like to receive a few in a queen cage.

It *is* too bad, that so much hard feeling is engendered on account of these differences of opinion, and we can suggest at least one way that bees can be sold and have everything pleasant. Advertise hybrids, and then send out bees that are better than you have led your customer to expect.

TEMPERATURE FOR BROOD REARING.

As many stocks of bees have come out weak in numbers in this state this spring and perhaps elsewhere, a few words in regard to the best means of getting and keeping the degree of heat required by the law of nature, with the fewest bees demanded for the successful rearing of young bees, would not come amiss. In order that brood rearing may go on successfully, the temperature inside the cluster of bees must be at least 80°. Suppose we have a cluster of bees that on a moderately cool morning occupies three or four spaces between the combs in a full hive containing 2000 cubic inches; we will usually find brood on but two combs and but small patches at that. Now if we set the two combs of brood close to one side of the hive and by means of the division board shut all the bees on these two frames, we shall find that the queen can and will occupy from two to three times the space that she did when they were in the centre of a full sized hive.

As spring fussing has been spoken lightly of by some, we made some experiments in regard to it and as an example will give one. We selected two stocks as nearly equal as possible, both being clustered between 6 ranges of comb and shut the one on three combs while the other had the whole hive. Both have been treated as nearly alike as possible up to date, and the result is that the one shut on the three frames has them filled with brood to the bottom bar and out at the corners while the other has brood in four frames to the amount of about one frame full, or one-third of what the other has. It will be seen that we can put an empty frame in the brood nest of this hive and the queen will fill it with brood in a very short time and that to the bottom and side bars, while if we undertake to spread the other we shall be likely to ruin more or less of the brood they already have. As soon as the bees become crowded, we shove along the division board and put in the center one empty comb, so continuing to do until the hive is full, which will be long before the other thinks of being so. This is what we call a judicious spreading of the brood. Never spread brood when the bees are not crowded for room for it is only a waste of time, brood and heat.

We don't know but friend Townley can get a handful of bees up to a good swarm as quickly in his chaff hive but *we* can not do it. Another thing to be considered is the size of frame. Take for instance the large Quinby frame and the Gallup, let a practical bee-keeper manage both and he will soon find that with the same quantity of bees, and with queens of equal fertility the frame first mentioned can not be managed so as to have every cell occupied with brood while the other can. Furthermore the hive with the small frames can be managed so that double the quantity of workers can go into the fields while with the large frame they have to stay at home to keep up the necessary heat for brood rearing. With the large frame the bees are spread out over too large a surface, while with the small frame they are in a more compact and natural form. To illustrate more fully, suppose we hive a good swarm in a box 10 inches square and 5 feet high, they will fill it the first season if the yield of honey is good and if they winter well so as to consume but little of their stores, we shall find that the bees and brood will be at the bottom while the heat is at the top. Cut off the top and bring the size of the hive down to 12 inches deep and double the quantity of brood will be reared and double the bees go into the fields to labor. Again, in the spring we often want to strengthen a weak colony by inserting a frame of brood from a strong swarm without injuring it, and have the weak stock protect the brood given them. This we can do with a small frame while with the large one it is far more difficult. If we have a very small swarm we take a frame from which we can see a few bees gnawing, shake all the bees in the small stock on to it and confine them to this one frame and in a few days they will be strong enough to take one empty frame. This is for ordinary spring weather and not when the mercury is 95° in the shade.

G. M. Doolittle, Borodino, N. Y., May 4th, 1877.

We quite agree with all you say friend D., unless it is that you place too much stress on the matter of division boards and a small brood frame. What is the reason you York State folks have so many weak stocks in the spring, and have to keep up such an endless fussing with them? (That is pretty cool we know after having succeeded tolerably well for just one winter, but we want you to keep on talking). We went to-day and opened our 20 frame long idea hive just to see how they got along; they had not been disturbed this spring at all, and in fact the hive had not been opened since the time they chased us away from our corn popper smoker last October. We raised the cushions at one end, and concluded the bees had all worked over that way. But on going to the other, it was just the same. Next we opened the middle and they were just as closely packed there, and when we raised out a frame they were clear down to the bottom board, the whole length of the hive. They are in fact the strongest stock in the apiary, and the strongest we ever saw for the 9th day of May. What did it? They have had no division board, but on the contrary have had an entrance at each end of the hive open all winter. They had chaff cushions over the frames, about 6 inches thick, and they are there now, but they had nothing at the sides at all. Every one of their 20 frames was full of sealed honey in the fall, for they were contrary and would not work in the boxes, and Mrs. R. says that is why they are now so strong. She thinks they took a look at the great quantity of stores they had on hand, and concluded it was safe to start brood in nearly every frame in the hive as they are doing now. We haven't yet decided what we shall do with them, whether to clean out the cistern and work them for extracted honey, to raise comb honey and run the price down to 10c., or to swarm them artificially every Monday morning and sell bees, or—or—or to put in a division board and "build 'em up."

FRIEND MARTIN'S CIRCULAR APIARY, &c.

Gleanings for May is in hand and finds us very busy with our pets. We have given up foot-power and now run our buzz saw with a "wee bit" of a steam engine, a 1½ horse power, and how much easier it is to dispense with working your legs off while your hands and *head* have all they can attend to. Our bees wintered finely and on a recent visit among bee men we find all that were wintered in cellars or houses have come out in excellent condition, and there will be many May swarms. I had a few swarms on the 5th that had started incipient queen cells. I wintered 84 colonies in cellar and found that those I doubled in the fall came out strongest, and those that were kept breeding until late in the fall were in the very best condition. Five were wintered on summer stands, two with chaff only on top, died. Three packed with chaff as per Townley, wintered, but two of them are now rather weak, while one is very strong, but no better if as good as those from the cellar. I made one mistake in wintering several old queens and now am perceiving its effects; they are about used up and are being superseded,

I wish to give you an encouraging word in relation to your A B C in bee culture. The manner in which you have commenced it, reminds me of the boys and the snow ball; you commence on a small basis but if you keep rolling," you will yet get a magnificent collection of facts and *pictures*. It will be to bee culture the same as Knight's Mechanical Dictionary is to mechanics. You ought to get in a few of the patent humbugs as well. I notice you have various kinds of apiaries described. Where is the log gum apiary down by the pig sty with weeds and neglect surrounding it?

My apiary is laid out and managed on a little different plan from any described. I have been hoping to send you a photograph of it but have not brought a camera to bear upon it as yet. I set my hives in circles. The inner circle is 12 feet in diameter, nine hives set in the circumference *facing* the *center* four feet apart. As each hive faces a different point of the compass this is not too near. The next circle has 20 hives which *face outward* from the centre with room in rear of each circle to run a two wheeled cart. In examination or extracting, we start in at one side of the circle and when we get through we are coming out where we started from, on the side nearest the bee house. I shade the hives with vines of various kinds, gourds, morning glories, and even garden pole beans, all trained on a fan shaped trellis, made by slitting a board nearly the whole length and spreading the tops.

Our cart is the very handiest arrangement we have introduced in our yard. It can be wheeled up to a hive and serves as a seat to sit on while you examine the hive, meanwhile it carries all your tools, extra combs, etc. A hive can be placed on it instantly and wheeled to any part of the yard. We put on a cover and away we travel from hive to hive with our extractor and when we have a load, wheel it directly into the bee house; as the floor of the bee house is below the level of the yard, our track that runs into the house enables us to wheel our load directly over a barrel.

By this plan of setting hives in a circle I can get more bees into a given space than on any other, for every hive faces a different point of compass, and the hives can be placed closer together; besides, I paint the *door-steps* different colors.

J. H. MARTIN, Hartford, N. Y., May 7th, 1877.

Give us a photograph of it by all means.

REPORT FROM JAMES BOLIN.

ALSO SOMETHING ON "TOTHER SIDE" OF THE CHAFF QUESTION.

FRIEND NOVICE:—I believe that bee-keepers, or at least that portion of them who write for and take the bee journals, have almost unanimously agreed to call May 1st their new year, here in the North, and to regard it as the proper time in which to take account of stock, report losses, &c. In accordance with said agreement I now send in my report for the past winter.

Of the 153 swarms in my house apiary, and wintered in my bee houses, I lost one of the weakest. They starved, the last week in March, by clustering at the south side of the hive away from their stores. In my northern apiary I lost one queen. She was lost from a colony in a hive having modern improvements—i. e, chaff attachments—that was wintered on the summer stand. The rest are in good condition, generally, many stocks being very strong. In a hive having glass on the sides and rear end, I noticed brood in the outside combs over three weeks ago, and I have other stocks that I think are stronger than that one. Do you think there is much danger of such colonies "dwindling?" If there is, I must have some "cushions" sure.

Now, friend N., you asked my opinion of "chaff" some time ago, and I will now give it.

There can be no doubt but that bees can be safely wintered, if properly packed in it, for we have testimony of men whose word is unimpeachable, that they have succeeded with it. But it is equally certain that they can be safely wintered without it, and, as I think, with much less trouble. I am sure it took me more than twice as long to prepare those I wintered on their summer stands, as it would to have carried them into a house, or cellar, and none of them are as strong to day as some of those that were housed.

The double-walled chaff packed hives are, of course, with the addition of a cushion on top, always ready for winter, so far as the hive is concerned; but they cost nearly twice as much as a single hive and in addition are heavy and clumsy to handle. I have one of them but it must give better results than I anticipate or I will serve it as I did my double width hives: reconstruct it into a single one.

My experience the past winter has convinced me more fully than ever of the advisability of doing all necessary handling some time before bees are housed. When I put the bees in my home apiary in their winter quarters I left several colonies out, intending to winter them on their summer stands, but the weather turned so cold in a few days that I concluded to put them all in; thinking those I had out of doors at my northern apiary would be sufficient to test out-door wintering, for the present at least.

DISTURBING BEES IN THE CELLAR.

In rearranging the last lot for in-door wintering, some were disturbed somewhat; now for the result. In four weeks or less after they were put in, three of them became very uneasy and shortly afterwards I was compelled to take them out and put them in my house cellar, that they might not disturb the rest. After they had been in the cellar a short time I saw I must do something with them or lose them. As it was too cold to put them out to have a fly, I finally made a light frame, covering the bottom and sides with newspapers and the top with musketo bar, I set this in the kitchen and put them in it, one at a time, and let them have a fly, and then returned them to the cellar. They all came through, two of them in pretty fair condition, the other weak, but now out of danger, as plenty of young bees are hatching out, and that is the turning point.

SPRING DWINDLING AND BROOD REARING.

Judging from your remarks in several of the last numbers of GLEANINGS, you seem to think that early breeding causes, or at least aggravates, spring dwindling. Why bless you! friend N., that is just what saves my bees. If I can only get bees enough to commence breeding when they should, say early in January, I will risk their dwindling. What if the old bees all die as soon as spring opens, if there are plenty of young ones to take their place. I would much rather risk the labors of the hive to a gallon or peck of bees two months and less old, than to the same number six months old the most of whom will be lost shortly after they commence out-door labor. If you wish to see how fast these old bees are lost, just give a stock that has been queenless all winter, and consequently has none but old bees, a frame of eggs and unsealed brood in April, and even if it is pretty strong at the time, it will soon dwindle down to a handful. Right here is where the much talked of and dreaded spring dwindling comes in; old bees dying off and not enough young ones hatching out to take their place. No one ever saw a hive *full* of young bees the first of March dwindle down to nothing, while strong stocks containing only old bees often do so.

FASTENING BEES IN THE HIVES FOR CELLAR WINTERING.

Before putting my bees into winter quarters I put mosquito bar over the portico and I think it paid, as it permitted the bees to come out of their hives to carry out the dead ones when so inclined, yet it prevented their falling on the floor and getting lost. And it is much pleasanter going into a room having a clean floor than into one having the floor covered with dead bees.

AFTER SWARMIMG, HOW TO PREVENT.

As prevention of second swarms will soon be in order, I hope those who have not already done so, will try the plan I mentioned last September. I see friends Kelly and Doolittle find it a failure with them. With me, on the contrary, it has in every case prevented second swarms. Mr. D's experience and my own are a little different in another respect. He says that it is only the bees that are in the field that return to the old stand, &c. With me all, or very nearly all that have marked the old stand return to it, so that scarcely a bee enters the old hive on the new stand for several days, except the young bees that go out to play, shortly after noon.

Introducing young fertile queens to prevent second swarms was a complete failure with me last year, as the last one introduced for that purpose led out a swarm August 18th, after the article in September No. was written.

West Lodi, Ohio, May 14th, 1877.

Now friend B., we rely very much on you, Doolittle, and several other staunch veterans to warn us when we are getting into mischief, and while we think of it, if there is one among the whole who is entirely free from extravagant hobbies, we guess you are the one; but you certainly are inexperienced in the dwindling business or you would not speak as strongly as you do, especially when you say that a colony with young bees does not dwindle. In our apiary we have repeatedly had a fair colony of young bees dwindle out in April, and we have made excellent colonies of stocks that had been queenless until nearly May. An experiment now in progress will illustrate the matter. In speaking of McConnell's discovery last month, we stated that larvæ might be capped over as soon as six days, but afterward thought best to make a careful test of the matter. In the apiary was a colony that had a very fair quantity of bees in March, and nearly all young; as they stood out all winter, they commenced rearing brood in February., during warm weather. In April all the old bees were gone, and by the 25th, the day we started to make the experiment, nothing was left but a few dozen bees to take care of brood in three frames, the middle one containing bees just gnawing out. The queen has evidently been faithfully doing her part, for almost every cell near the brood contained several eggs. This state of affairs we have witnessed many times, and were not at all surprised. Brood would die the very first cool night, unless something were done, and the queen might desert the hive in less than an hour. In the house apiary was a fair colony that was queenless, they were kept so partly to see how long the old bees would hold out. I knew from past experiments that these queenless old bees would accept any queen at once, and that they would adhere to any location, if given a queen. Every comb containing eggs or larvæ was given the queenless stock, and perhaps a quart of the old bees were given to the queen in her own hive. What do you suppose they did? The queen commenced laying right off, and you never saw a set of school children more delighted with a holiday, than were these old bees with a queen that went right to work laying eggs about as regular and fast, as a farmer would plant corn. In just 6¾ days they had larvæ capped over, and in 9 days the frame was pretty well filled with brood. Of course we used chaff cushions. What do you suppose the queen did when she got a frame filled? Went on to fill the others of course and although young bees have begun to come out rapidly now, the old ones seem as bright and fresh as when they first commenced brood rearing. *I* think the reason is that they did not start out for pollen at all, until settled warm weather, and when they commenced to rear brood, but few bees comparatively were needed to keep it warm, permitting the queen to go right along with her work—after she had got one field planted, taking another, &c. With the green house I can easily hatch young bees in Dec. or Jan., friend Bolin, but it costs *ever* so much more than it does to do it in May, and I have never been able to discover spring dwindling was any less liable to attack young bees, than old ones. Others have made the same experiment and we believe in most cases with like results, providing they have had perfect young bees to start into winter with, and not ragged winged veterans.

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A. I. ROOT.
EDITOR AND PROPRIETOR.
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MEDINA, JUNE 1, 1877.

But they that wait upon the Lord shall renew *their* strength; they shall mount up with wings as eagles; they shall run, and not be weary; *and* they shall walk, and not faint.

◆

We have sold about 50,000 section boxes already, and have just now started a 25 horse power engine at work at them.

Every letter we receive is not only carefully filed away alphabetically, but the writers name is plainly written on the envelope; but notwithstanding, the number received is such, that it is often a very great task indeed to find one received but a few weeks back. If our friends would bear this in mind in ordering frames, extractors, etc., it would save much trouble, and many misunderstandings.

We have received a sample of the fdn. C. O. Perrine offers for 50c. It has no walls to the cells, but is like the fdn. made for so many years in England and Germany. Not having as yet received a price list, we are unable to say whether he retails it by the single pound for 50c., or not.

L. C. Root says in May *Agriculturist*, in regard to ease of handling frames, "After the first comb is removed, the preference is with the Langstroth frame in this one respect." Where the frames slide easily in the rabbets, (metal bearings), we cannot think any one will find any trouble in getting out the first one.

We are well aware that many things that ought to have received attention or had a place in this No. are left out; but with the great rush of business it has been unavoidable. The way the fdn. has come into favor is simply astonishing, and we think we may consider all discussion at an end in regard to its value for both brood comb and comb honey.

Something has been said about bees being sold lower than—than—than they can be afforded. Now is it not a waste of time, friends, to argue such matters? If anybody has offered bees for sale (or anything else) cheaper than they can afford them, the matter will very soon right itself. If they *can* afford them cheaper than you, had you not better get up a little earlier in the morning, and "scratch around" a little faster? Those that work hard and talk little are often the lucky ones.

RED BIRDS' EATING BEES.

I HAVE received the four No's of Gleanings, and am well pleased with them. Will try to get subscribers, but you must take into consideration the fact that I am located among the mountains of Kentucky, and get mail but once a week; the people are ignorant and of course non-progressive.

I have read Quinby and taken some observations during the past two years, and had come to the conclusion that there was no bird that made a business of catching worker bees, but yesterday I was taken all aback by a reputed harmless bird of this place (I never saw any in Michigan) called a "red bird." The male is red and a great singer, naturally a shy bird, but a few days since I noticed one in my back yard where I have 2 stands of bees. I set a trap for him, and watching to see him get into the trap I saw him go on to the alighting board of the hive and take bees *out of the hive.* I examined round the hive and found the ground and top of hive littered with abdomens and beads of bees; of course I was willing my son should shoot him, which he did in a very few moments as bee diet had made him very tame.

I have had one of these birds in a cage for the past year (April 2d sent him to Toledo) and had not found him ravenous for insect food, but I had never tried him on on bees. My neighbor has one of these birds which is singing at a great rate while I am writing this. Think I will take him over some bees to test his appetite.

I just went out, picked up two deformed young workers and took them over to my neighbor's red bird; as soon as he saw them crawling on the bottom of his cage he picked them up but soon dropped them, scratched his bill with his foot, then tried again with better success and being exceedingly bee hungry left no part of them that I could see. He then returned thanks in a nice song, and I left him in his glory; sad that I couldn't feel friendly toward his race.

This is a great place for toads, and Quinby admits them to be fond of bee diet; now by putting the hive low and filling around with sawdust do not you invite the toad to make it his home among the bee hives?

H. Scranton.

Plummer's Landing, Ky., May 2d, 1877.

ABSCONDING SWARMS. Perhaps nothing is more aggravating in bee culture, than to have your bees all on a sudden "light out" for parts unknown without so much as stopping to give you a parting word of farewell, or a single token of recognition of the debt they owe you in the shape of gratitude for your past kindnesses in providing them with a home, shelter, &c. Perhaps no other part of animated creation exhibits a greater love of home, than does the honey bee; no matter how humble or uninviting the surroundings, they seem much attached to their home as they parade in front of their door-way after a hard day's work, plainly indicating that they have a keen idea of the rights of ownership, and exhibiting a willingness to give their lives freely if need be in defence of their hard earned stores. It seems difficult to understand how they can ever consent to abandon it all, and with such sudden impulse, and common consent. No matter if they have never seen or heard of such a thing as a hollow tree, but have for innumerable bee generations been domesticated in hives made by human hands, none the less have they that instinctive longing that prompts them to seek the forest, as soon as they get loose from the chains of domestication. It is possible that the bees as they go out foraging, keep an eye out for desirable places for starting new homes, and it may be that they have the hollow trees picked out some time before they decide to leave. Many incidents have been reported that point out pretty clearly such to be the case. We once found our bees working strongly on a particular locality about a mile and a half from the apiary, where the white clover was blooming with most unusual luxuriance. Very soon after, a colony swarmed and the bees after pouring out of the hive took a direct line for a tree in this clover field, without so much as making any attempt to cluster at all. Did they not figure out the advantage of having only a few rods instead of over a mile to carry their honey, after having patiently gathered it from the blossoms little by little? Perhaps it will be well to remark here, that it is very unusual for a swarm to go to the woods without clustering; they usually hang from 15 minutes to an hour, and many times several hours; we have in fact known them to hang over night, but perhaps it would be well to take care of them inside of 15 or 20 minutes, if we would make sure of them. Long before swarming time, hives should all be in readiness, and they should also be located just where the new colony is to stand, with the sawdust, grape vines, or whatever we decide to have, all in nice trim. If you are going to have a model apiary, please do not think of waiting until the bees swarm, before you lay it out, but take time by the forelock, and with careful deliberation, decide where every hive shall be before it is peopled with bees, if you wish to keep ahead and keep your bees from taking "French leave."

But they sometimes go off even after they *have* been carefully hived, some will say. We are well aware they do often go off after being hived; sometimes the same, and sometimes the next day, but are you sure the hiving was carefully done? We never feel satisfied unless we have given the new swarm at least one comb containing unsealed brood, and we have never had a swarm desert a hive when thus furnished, nor have we ever heard of one's doing so. With such hives as we shall describe, it is a very simple task, and takes but a minute to open a hive and get such a comb. And besides, if by any chance you should fail to get the queen when you hive the swarm, they would be supplied with the means of rearing another.

This plan of giving them unsealed brood, does very well if you can once get them into the hive, but it is necessarily somewhat like the one of catching birds with a handful of salt; how are we to obviate losing the occasional swarm that goes off without clustering at all? Or the quite frequent cases of coming out unobserved or when no one is at home? We are happy to say there is a very certain and sure remedy, for all cases of first swarming, in having the wings of the queen clipped so she can not fly; this plan is in very general use and answers excellently for all first swarms; but alas, the after swarms are the very ones that are most apt to abscond and we can not clip the wings of *their* queens, because they have not yet taken their wedding flight. What shall we do? Candidly I don't know of any better way than to watch carefully when they are to be expected and then chase after them, climb trees, &c., until they are once got safely into a hive. If you think this too much trouble, prevent having after swarms as we have advised under that head.

Clipping the wings of the queen prevents losing first swarms by absconding, it is true, but it does not always prevent losing the queen. She goes out with the bees as usual, and after hopping about in front of the hive sometimes gets ready to go back at about the same time that the bees do after having discovered she is not in the crowd. Even if she gets some little distance from the hive, the loud hum they make as they return, will guide her home many times, but unless the apiarist is at hand at such times to look after affairs, many queens will be lost, and the bees will rear a lot of young queens and go into after swarming in good earnest, making even the first swarm an "after swarm." A German friend who knows little of bee culture, once told me my bees were swarming, and that if I did not ring the bells, &c., they would certainly go to the woods. As I quietly picked up the queen in passing the hive I told him if they started to go away, I would call them back. Sure enough, they did start for the woods, and had gone so far that I really began to be frightened myself, when away in the distance we saw them suddenly wheel about and return to the hive at our very feet. While he gave me credit of having some supernatural power over bees, I felt extremely glad I had taken precautions to clip all our queen's wings but a few days before. After this I felt a little proud of my control over these wayward insects until a fine swarm of Italians started off under similar circumstances, and despite my very complacent positive remarks to the effect that they would soon come home, they went off and staid "off." In an humbler and I dare say wiser frame of mind, I "investigated," and found they had joined with a very small third swarm of black bees that had just come from one of a neighbor's hives. I tried to "explain," but it required a five dollar bill to make matters so clear that I could carry back my rousing swarm of yellow bees and sort out the black unfertile queen, that they might be made to accept their own. Thus you see my friends, how many a slip there is in bee culture between cup and lip, and how very important it is that you keep posted and also "post" yourself in some conspicuous place near or in the apiary if you allow natural swarming, and do not want your golden visions—and bees—to take to themselves wings and fly away.

ABSCONDING IN EARLY SPRING.

This seems to occur just at a time when you can ill afford to lose a single bee; and worse still, only when our stocks are generally, rather weak, so that we dislike the idea of losing any of them. In this case they do not as a general thing seem to care particularly for going to the woods, but rather take a fancy to pushing their way into some of the adjoining hives, and at times a whole apiary will seem so crazy with the idea, as to become utterly demoralized.

A neighbor who made a hobby of small hives—less than half the usual size—one fine April day had as many as 40 colonies leave their hives and cluster together in all sorts of promiscuous combinations. To say that their owner was perplexed, would be stating the matter very mildly.

Similar cases, though perhaps not as bad, have been reported from time to time ever since novices commenced to learn the science of bee culture, and although cases of swarming out in the spring were known once in a great while before the new improvements, they were nothing like the mania that has seemed to possess entire apiaries—small ones—since the time of artificial swarming, honey extractors, &c. We would by no means discourage these improvements, but only warn beginners against making too much haste to be rich. Do no divide or commence swarming your bees, until they are abundantly strong; have them go into winter quarters with an abundance of sealed honey in tough old combs as far as may be, give them hives with walls thick and warm of some porous material, such as chaff or straw, with a good thickness of the same above, and you will have little cause to fear any trouble from bees absconding in in the spring.

ABSCONDING NUCLEUS SWARMS.

This, like the above seems an outgrowth of the artificial system of working with bees, especially the plan of rearing queens in nuclei formed of two or three frames five or six inches square. This small hive system was much in vogue about the year 1865. For awhile all worked finely, but soon complaints began to be heard that the bees left their hives in a body, with the queen, whenever she attempted to take her flight to meet the drones. Giving them unsealed larvæ, to amuse and console themselves with while she was absent, was then advised and it answered very well for a time, but eventually one after another began to declare they wanted no frame in the apiary for queen rearing, smaller than the ordinary brood frame. Since this but little has been heard in the way of complaints of this kind of absconding. Where one has the time to study these little swarms, there is something very interesting and amusing about them. We have had them do finely for several weeks, with perhaps no more than a good pint of bees. A good day's work during clover bloom, would fill the hive completely, and the young queen after commencing to lay, would often fill her combs for the second day's work; then if she turned up missing on the third day, we used to wonder what in the world was the matter. Sometimes these little swarms would be found hanging on a currant or raspberry bush as quietly and demurely as if that was the way bees always did, and at other times when we had hunted through all available places for a truant colony and given them up in despair, they would come circling back and cluster quietly almost under our (very) inexperienced noses.

There is still another kind of absconding that seems to be for no other reason than that the bees are displeased with their hive, or its surroundings, and at times it seems rather difficult to assign any good reason for their having suddenly deserted. We have known a colony to swarm out and desert their hive because it was too cold and open, and we have known them to desert because the combs were soiled and filthy from dysentery in the spring. They very *often*, swarm out, because they are out of stores, and this generally happens about the first day in spring that is sufficiently warm and sunny. We have known them to swarm out because their entrance was too large, and if we are not mistaken, because it was too small. We have also known them to swarm out because they were so "pestered" with a neighboring ant hill—SEE ANTS—that they evidently thought patience ceased to be a virtue.

Many times they swarm out in spring where no other cause can be assigned than they are weak and discouraged, and in such cases they usually try to make their way into other colonies. While it may not always be possible to assign a reason for such behaviour with medium or fair colonies, we may rest assured that good strong colonies with ample supplies of sealed stores seldom if ever, go into any such foolishness.

By way of summing up it may be well to say: if you would not lose your bees by natural swarming, clip the wings of all queens as soon as they commence laying, then look to them often and know what is going on in the apiary every day during the swarming season. If you would not have runaway swarms in the spring and while queens are being fertilized, confine your experiments to pecks of bees instead of pints.

AFTER SWARMING. We might define this by saying that all swarms that come out, or are led out by a VIRGIN QUEEN, are termed after swarms, and all swarms that come out within ten or fifteen days after the first swarm, are accompanied by such queens. There may be from one, all the way up to a half dozen or even more, depending on the yield of honey, amount of brood or larvæ, and the weather; but whatever the number, they are all led off by queens reared from one lot of queen cells, and the number of bees accompanying them, is of a necessity, less each time. The last one frequently contains no more than a pint of bees, and if hived in the old way, would be of little use under almost any circumstances, yet when supplied with combs already built and stored with honey, such as every enlightened apiarist should always keep in store, they may be made the very best of colonies, for they have young and vigorous queens, and often are equal to any in the apiary, the next season. This after swarming is often considered a great nuisance, or misfortune, but where bees can be sold, at even tolerable figures, we would advise taking care of all that may come out in the manner indicated. In fact we know of no easier or simpler way of raising bees, but unless the apiary and bees in the vicinity are pretty thoroughly Italianized, there is much greater risk of getting poor hybrids, than with the different ways of artificial swarming where we rear our queen cells from choice selected brood.

There is one very amusing feature in regard to these after swarms. When they have decided to send out no more swarms, all the young queens in the hive, are sent out, or it may be, allowed to go out with the last one, and every few days during the swarming season, some "new hand" writes us about the wonderful fact of his having found three or four, or it may be a half dozen queens in one swarm. On one occasion a friend who weighed something over 200, ascended to the top of an apple tree during a hot July day to hive a very small third swarm. He soon came down in breathless haste to inform us that the swarm was *all queens*, and in proof of it, brought two or three in his closed up hands.

The queens with these after swarms seldom lay in the drone cells at all the first season, and the bees therefore build almost entirely worker comb, which is additional reason for taking care of them, and supplying them with stores from other colonies. However, we would advise as a general rule, preventing too much after swarming if it can be done without much trouble, but if they will come out in spite of all we can do, take care of them in the manner indicated. While first swarms usually come out in the middle of the day, and take things in a regular methodical way, as indeed we might expect a laying queen of age and experience to do, these after swarms that have queens not yet fertilized are to be looked for at almost any time of day, from early in the morning, until after sundown, and they may also be expected to do all sorts of eccentric things, and to cluster in all sorts of places, or to go off into the woods, without clustering at all.

Preventing after swarming, can generally be accomplished at least temporarily, by cutting out all queen cells but one, after the old queen with the first swarm has left. There are two objections to this plan however. The first is that if the single cell left fails to produce a perfect queen, the colony is left queenless. The second is that they will sometimes—especially the Italians—swarm out with the only queen left, leaving the colony hopelessly queenless. With the extractor, or by the use of empty combs, we can almost invariably keep down the swarming fever, but if we work entirely for comb honey even if the boxes are all supplied with foundation, we must expect to have more or less swarming. With box hives, perhaps the best we can do, is to hive the after swarms near the old stock, and let them set until the next day; by this time all the queens will have been killed but one, and we can then kill her, shake the bees in front of their old hive and all will be "lovely," or about as nearly so as things ever are with box hives.

Giving the old swarm a young fertile queen as soon as the first swarm has left, will usually prevent all second swarming, or at least for the time being, for the laying queen will soon destroy all queen cells, or induce the bees to do so. A simpler method, and one that we believe succeeds almost invariably, is to move the old colony away as soon as the first swarm is out and set the new one on the same stand. This has the effect of getting all the flying bees into the new swarm and leaving the old one so destitute that the queen that hatches first is allowed to destroy all the rest of the cells. By this plan, we are spared the trouble of opening the hive, but are obliged to carry each hive to a new stand as soon as it has swarmed. If the queen's wing is clipped, and we are at hand, we can manage swarming by this method very expeditiously. As soon as they commence swarming, pick up the queen and carry away the hive they are coming out of; place the new one in its stead and as soon as the bees commence coming back to look for her, put the queen among them, and your hive is swarmed without their clustering at all. This plan works excellently and the bees go right to work apparently as perfectly satisfied as if they had clustered in the usual way. The only objection is that an inexperienced person might not find the queen readily, and she might be lost; also, we are obliged to be on hand or risk losing our queens. It should be borne in mind that a swarm that issues a month or more after the first swarming, is not to be considered an after swarm for in this case it will be led out by a laying queen, or one that is old, compared with the queens just hatching. In regard to the oft repeated advice to prevent after swarming by removing all queen cells but one, it may be well to say that the Italians frequently swarm without constructing queen cells at all, and the beginner is sadly puzzled at finding nothing of the kind when he looks his hive over. Also, we may have several after swarms without having any first swarm at all, where the queen is killed or removed by accident. We once had a box hive neighbor who was so much taken up with an observatory hive he saw at our house, that he at once went home and made one, and to get the bees, drummed out about a quart from one of his hives. He got the queen, and had a very fine one comb hive in his parlor, but in a few days the box hive she came from commenced swarming, and furnished him with more queens and small colonies than he knew what to do with.

ALIGHTING BOARDS. A few years ago it was common to see bee hives perched upon benches or "legs" with grass and weeds so thick on the ground below, that if a heavily laden bee missed the hive, it was a chance if it picked its way out in a full half hour, but at present we usually see the hives so near the ground that those heavily laden with pollen or honey, may go in on foot if they find it more convenient so to do. If you doubt the utility of having the ground smooth and clean in front of the hives, it may be well to take a look at a hive set in the weeds and grass, and then at one prepared in the way we advise. Several years ago, we had a fine colony suspended from a pair of spring balances. It was in the height of the clover bloom, and the hive gained in weight during the day an even 10 lbs. As the hive was raised a couple of inches from the ground to suspend it, the bees at about

9 o'clock, had fallen on the ground in quite a little cluster where they paused to take breath until they could again take wing to get into the hive. At this time the spring balance showed a gain of an ounce every five minutes. To help them, a cloth was tacked from their old alighting board to the entrance of the hive; they then crawled in in a steady stream, and the dial of the balance at once showed a gain of one ounce in every *four* minutes. Other experiments seem to indicate very clearly that a good alighting board, or rather a free and unobstructed passage to the hives, is a very important matter.

If any kind of a board is placed on the ground in front of the hives, it is sure to warp under the influence of the hot sun on one side, and the damp earth on the other. If we clamp it to prevent this, we have a place for toads, mice and other vermin to lurk, and taking all things into consideration, we prefer a broad bank of sawdust, spread directly on the ground. When this is first put down, it is blown about by the winds, and beaten down by the rains, but if you press it down when damp or wet, it will when dry hold its place nicely, is not affected by the weather; affords no lurking place under it, and gives an excellent foot hold for the bees when returning during a windy day. After the days work is over, the sight of the bees congregated about in their "door-yard," is suggestive of peace and tranquillity to anyone who has studied the queer ways of these "little busy bodies." So much attached in fact do they seem to become to the idea of keeping this little door-yard clean and tidy that they will labor by the hour in trying to pull up any tiny blade of grass or weeds that may have the audacity to attempt to grow any where within a foot of their hives. This sawdust idea, is also an excellent one when we are watching or hunting queens with clipped wings in natural swarming. With a nicely kept door-yard, you can get your eye on the queen, when several yards from the hive, when otherwise you might have to hunt in the grass and weeds for an hour, and then not find her.

With the house apiary, we are compelled to have a regular door-step, or alighting board, and these should be as broad as we can conveniently have them. Our own, are 14x10 inches, and are securely clamped, and painted on both sides. While the bees do fall to the ground to some extent during a heavy yield of honey, there is less trouble than we imagined, for they generally strike the broad alighting board. Another point that favors their easy ingress to the hives, is the 2 inch auger hole entrances. Many of the bees will shoot right into them, and alight safely on the combs; the auger hole seems to be a plain mark for them to aim at, even when some distance from their hive. Very likely it accords with their natural disposition of seeking hollows in the forest trees, and these entrances are not very unlike the knot holes they many times have for entrances in forest trees. It will be an excellent plan to keep the ground clean about the house apiaries also, that we may see when queens are being brought out during natural swarming, superceded, &c.

The old style of Langstroth hive with its portico, furnishes a very convenient alighting board, but aside from the expense, and inconvenient projections on the front of the hive, we have found them very annoying on account of the excellent harbor they afford for spiders with their attendant webs. We might omit the roof, it is true, but then the rain would beat into the hive inconveniently. Taking all things into consideration, we much prefer the entrances as used with the Simplicity hive, and the alighting board or alighting ground rather, made of the packed down sawdust. See HIVES.

ANTS. Although I have given the matter considerable attention, I can not find that ants are guilty of anything that should warrant the apiarist in waging any very determined warfare against them. Some years ago, a visitor frightened me by saying that the ants about my apiary, would steal every drop of honey as fast as the bees could gather it. Accordingly I prepared myself with a tea-kettle of boiling water, and not only killed the ants, but some of the grape vines also. Afterward there came a spring when the bees all dwindled away and died, but about eleven colonies, and the hives filled with honey scattered about the apiary unprotected, seemed to be about as fair a chance for the ants that had not "dwindled" a particle, as they could well ask for. I watched to see how fast they would carry away the honey, but to my astonishment, they seemed to care more for the hives that contained bees, than for those containing only honey. I soon determined that it was the warmth from the cluster, that especially attracted them, and as the hives were directly on the ground, the ants soon moved into several that contained only a small cluster and for awhile both used one common entrance. As the bees increased, they began to show a decided aversion to having two families in the same house although the ants were evidently inclined to be peaceable enough, until the bees tried to "push" matters when they turned about and showed themselves fully able to hold possession. The bees seemed to be studying over the matter for awhile and finally I found them one day taking the ants one by one and carrying them high up in the air and letting them drop at such a distance from their home that they would surely never be able to walk back again. The bees, as fast as they became good strong colonies, drove the ants out, and our experience ever since, has been that a *good* colony of bees is never in any danger of being troubled in the least by ants. One weak colony after battling awhile with a strong nest of the ants, swarmed out, but they might have done this any way, so we do not lay much blame to the ants.

Ants frequently kill the young grape vines, and young plants and trees of different kinds, and it may be well therefore to know how to get rid of them pleasantly and easily. I really can not feel like recommending boiling water, if we can get along otherwise, besides the danger of killing our vines, &c., by its use. It is well known that where things do not please them, they are much disposed to "pull up stakes" and "abscond" very much in the way the bees do, and the simplest way we know of inducing them to do this, is to sprinkle powdered borax about their hills. After the first rain, you will see them forming a "caravan" lugging their larvæ, stores, &c., to a place where they are not annoyed by the disagreeable soapy borax. Spots in our apiary where they have been on hand every season for years, have been permanently vacated after one application of this simple remedy. If they make troublesome "trains" running into the pantry, honey house, &c., you are to follow them them to to their nest, and there apply the borax. As I have said before, I have not been able to discover that ants have any particular liking for honey, and I should take very little trouble to drive them away, unless they got into the liquid honey and got drowned or something of that kind. By making their habits and instincts a careful study, we shall probably get at the readiest means of banishing them, and we may also discover that they are no enemy after all, as has often been the case with many of the insect and feathered tribes. Let us try to be as neighborly as we can consistently, with all these wonderful little creatures, that in a certain sense are fellow travellers in this world of ours.

ARTIFICIAL PASTURAGE. Although there is quite a trade springing up in seeds and plants to be cultivated for their honey alone, and although we have about 4000 young basswood trees of our own, growing finely and promising to be the basis of a honey farm at some future time, yet we can at present give little encouragement to those who expect to realize money by such investments. There is certainly a much greater need of taking care of the honey that is almost constantly wasting just for lack of bees to gather it. A field of buckwheat will perhaps occasionally yield enough honey to pay the expense of sowing, as it comes in at a time when the bees in many places would get little else; and if it does not pay in honey, it certainly will in grain. If one has the money, and can afford to run the risk of a failure, it is a fine thing to make some accurate experiments, and it may be that a farm of one or two hundred acres, judiciously stocked with honey bearing plants, trees and grains, would be a success financially. It has been much talked about, but none so far as we know, have ever put the idea in practice. To beginners we would say: plant and sow all you can that will be sure to pay, aside from the honey crop, and then if *that* is a success, you will be so much ahead; but beware of investing much in seeds that are for plants producing honey and nothing else of value. Alsike, and white Dutch clover, buckwheat, rape, mustard and the like, it will do to invest in; but catnip, mignonette, Rocky mountain bee plant, etc., etc., we would at present handle rather sparingly. It should be borne in mind that we can hardly test a plant, unless we have one or more *acres* of it in bloom, and that small patches do little more than to demonstrate that the blossoms contain some honey, giving us very little clue to either quantity or quality. Bees will work on blossoms, and at times with great apparent industry, when they are obliged to make hundreds of visits and consume hours of time, in getting a single load; we therefore should be intimately acquainted with the interior of the hive, as well as the source from which the bees are obtaining the honey, before we can decide what is profitable to sow as a honey plant.

By way of encouragement, we may say that both plants and trees under thorough cultivation, yield honey in much larger quantities than those growing wild, or without attention. Our basswoods that have commenced to blossom, have shown a larger amount of honey in the nectaries, than we ever saw in any that grew in the woods or fields. The question, "How many acres of a good honey bearing plant, would be needed to keep 100 colonies busy?" has often been asked. If ten acres of buckwheat would answer while in full bloom, we should need perhaps ten other similar fields sown with rape, mustard, catnip, etc., blossoming at as many different periods, to keep them going the entire warm season. It would seem 200 acres should do nicely, even if nothing were obtained from other sources, but at present we can only conjecture. A colony of bees will frequently pay for themselves in ten days during a good yield from natural pasturage, and if we could keep up this state of affairs during the whole of the summer months, it would be quite an item indeed. Buckwheat, rape, and alsike clover, are the only cultivated plants that have given paying crops of honey, without question, so far as we have been informed.

ARTIFICIAL SWARMING. To attempt to give all the various plans and modifications that are recommended and practiced successfully, would make a book of itself; we shall therefore only give those we think safest and simplest.

If you are a new hand with bees, you had better not undertake to do such work, until you find that bees are swarming naturally in the neighborhood. At such a time, you will probably succeed by almost any plan. If you have plenty of money and not much time, you had better buy your queens, and the dollar queens will do very well; if you should get them killed, it will be no serious loss. If you also have plenty of empty combs, you can make an artificial swarm in a very few minutes, by simply moving any strong colony several rods away, and placing a new hive filled with empty comb, in its place. That the returning bees may not kill the strange queen they find in place of their accustomed mother bee, we protect her for a day or two in a wire cloth cage, see QUEEN CAGE. As they enter with their loads of pollen and honey, they seem very much perplexed and astonished, scramble out of the hive and after a few turns about the premises to reassure themselves, they go in again, repeating this until too tired apparently to bother their little heads any farther with a matter that is altogether beyond their comprehension, they wisely conclude that "what can't be cured, must be endured," unload in the empty combs near the queen, and go after more spoils. We have had a colony of this description bring in over 20 lbs. of honey, during the first two days. Let the queen out after they get friendly to her—see INTRODUCTION OF QUEENS—and your work is done. Should the colony get weak before the young bees begin to hatch out, you can give them a comb of hatching brood from some strong stock.

COMBS OF HATCHING BROOD.

As these combs of hatching brood are a very important item in building up, or strengthening stocks, and as we shall have need of referring to them often, we will explain that you are to look over the combs of a very populous colony and select one that has bees just gnawing through the caps of the cells. At the proper season, you should find combs that will hatch out a dozen bees while you are holding them in your hand; it should contain little or no unsealed brood, for the new colony might not be able to feed all the larvæ. One L. frame will if full of capped brood, make a very fair swarm of bees, and as these newly hatched downy bees are—like newly hatched chickens for all the world—ready to take up with anybody or anything, we can put them safely anywhere without fear of their being hostile, to either queens or workers.

Can we not get along without the empty comb by using foundation in its stead? Yes we can, but it is hardly advisable, unless we can have two or three old combs to start with, for the foundation should always be built out between two finished combs.

If you prefer to rear your own queens, which every apiarist should do, move your colony as before, but instead of the queen, give them a frame of *eggs* from your choicest queen. Now if you want fine queens, equally as good as those reared in natural swarming, be sure you do not give them any large larvæ, with the eggs. The best and safest way, is to take an empty comb, place it in the centre of your colony containing your imported or choice queen, and leave it there until you find eggs in it that are just hatching into larvæ; these larvæ will be scarcely visible to the naked eye when first hatched, but in place of the egg, you will see a tiny spot of the milky food that the nurse bees place round the embryo bee. This is just the age you wish the larvæ for queen rearing, and you may take the frame, bees and all, if you are sure you are not carrying your old queen along—look sharp—to your new hive. If you want as many queen cells as you can get, it will be a good idea to cut an oblong piece out of the comb, just under the eggs and larvæ. If it is inconvenient to move your hive (as in the house apiary) you can take only the combs with adhering bees, and in fact you need take only so many of the combs as are necessary to get all the brood and the queen.

In 12 days after the eggs are given the bees, the queens may some of them hatch, therefore if you design saving the extra queens you will need to remove all the cells but one, or the first hatched queen will destroy them all. We have had a young queen destroy as many as twenty fine cells in a single day, when we were so careless as to delay attending to them just at the right time. About 10 days after the queen hatches, you may expect her to begin to lay, and then you are as far along, as when you purchase a laying queen to start with, except that your bees have been growing old all the time—see AGE OF BEES—and unless they are supplied with fresh eggs or brood, will be pretty weak, before any young bees will be hatched to take their place. Now if you wish to have matters progress lively, you can give these bees a comb containing eggs every two or three days during the whole time they are waiting for the queen to be hatched and fertilized; they will do much better if they are thus employed, and they will be quite a prosperous colony by the time the queen is ready to lay. To get these eggs, you have only to insert an empty comb in the centre of a populous colony until the queen has deposited as many eggs in the cells as are required.

So far, all is very simple, and to swarm a large apiary, we would only have to repeat the process as many times as we have colonies, and we also succeed in Italianizing all our new stocks. But how about the surplus queen cells that we cut out? This is just where the complication comes in, yet if we look into the matter very carefully, we think it will be found quite simple. These queen cells if cut out shortly before hatching and inserted into the combs of any queenless colony, will usually furnish them a queen as soon as the one left where it was built, and if an artificial colony was made at the time the cells were cut out, it is plain we should have them supplied about ten days earlier than the one that was obliged to start their cells from the egg. Bees usually seem to have a preference for building their own cells, instead of having them furnished, but as they can by no possibility get a queen hatched in less than ten days—perhaps nine in extreme cases—the queen from the inserted cell will be out and destroy the others almost as soon as they are started, and so we need be to no trouble to get all the undesirable brood out of the way, as in our first experiment. Unfortunately, there is an *if* in the matter and it is if the bees do not destroy this cell you have given them, and proceed to raise one of their own in the good old way. Many contrivances have been invented to prevent them, such as caging the cell, &c., but we think you will do well to waste no time in experimenting with such machinery. The lamp nursery, enables us to hatch almost any number of queen cells, with safety, but occasionally the queens are lost in introducing even then; see LAMP NURSERY.

The plan we would recommend for beginners, and perhaps for everybody else as well, is to procure as many combs of hatching brood from different hives as you have queen cells and to insert a cell in each, the manner of inserting the cells, will be found in QUEEN REARING. These combs are to be all put in the one hive in which the cells were built, and if you have more than ten cells, put on an upper story, or even a third. As there are no bees in the hive except those that built the cells and the young ones just hatching, we shall have no cells torn down, and in a few hours, they will have waxed them all firmly in their places.

Now with these combs of hatching brood, every one containing a cell nearly ready to hatch, we are in excellent trim to go on with artificial swarming. We can, not only remove hives and put empty ones in their places as in our first experiment, but we can take combs of bees and brood from any hive in the apiary, blacks, hybrids, or anything, and put them into a new hive located anywhere, put one of the frames with the queen cell among them, and presto! we have a good colony, requiring no more care whatever. Four combs of bees and brood, will make a good colony at any time of the year, and they will be at work like an old colony in ten days. We have never known a cell destroyed when given an artificial swarm in the manner we have stated. In substituting a new hive for an old one, we should, if possible, use a new hive precisely like the old one, or much trouble may be found in getting the bees to go into it. If we cannot do this, make it look like the old one.

Notes and Queries.

OUT of 89 swarms packed in chaff, they are all alive and in good shape, *without a single exception.* They all have brood in all stages, and are busy carrying in natural pollen. F. R. SHAW.
CHATHAM, Medina Co., O., April 19, 1877.

[If friend Shaw has not had experience in losses in wintering and springing, we do not know who has, and we can heartily rejoice with him in his success.]

Mortality among bees in Michigan within the past six months is fully 50 per cent. G. E. CORBIN.
ST. JOHNS, Mich., May 24, 1877.

My bees are all O K; wintered on summer stands; I never have lost any in wintering, or from any other cause whatever. I have 66 colonies, and design on increasing some little each year; it is a paying business for me. E. LISTON, Virgil City, Mo., Apr. 11th.

[You can "go up to the head," friend L., if you have never lost a colony at all.]

We are well satisfied with "GLEANINGS" as an advertising medium. C. F. LANE.
KOSHKONONG, Wis., April 5, 1877.

[Heigho! We have one complaint of the fdn. after all, and it is a heavy one too, but GLEANINGS must be a faithful chronicler, no matter who suffers.]

What is the matter with your fdn.? Confident of success, I put starters ⅜ wide in 500 frames, inserting them in a groove in top bar ⅛ wide and fastening nicely. I now find that not one has been used, the bees eating them all out and starting on their own notions as suits them. Is fdn. a humbug? If you know of any way ih which it can be used please let me know as I am at my "wit's end" with the stuff, and have 12 or 14 dollar's worth of it on hand.
O. Brumfield, Brumfield Station, Ky. May 26th, '77.

[Now we haven't an idea where the trouble can be, and have written for a sample of the fdn., top bar and all, for it does seem as if the trouble must be in his having used something offensive to fasten his narrow strips into the frames. By the way, friend B., what possessed you to cut strips only ⅜ wide? Didn't the bees "get mad" because you gave them so little? Listen to what this next friend says.]

The fdn. received of you last fall is splendid, and the queen lays in them as well as any other comb. They neither sag nor bulge. Send the same kind if you have it.
D. Streeter Hilliard, O., May 16th, '77

Enclosed find $3,75 for 5 lbs. yellow fdn. worker size, the sheets to be cut just right for L. frames. The lb. sent me a short time ago worked like a charm.
L. R. LEUTZ, Ullin, Ill., May 21, 1877.

[That is the way to do; order a single lb., to try it, and then if you or your bees are awkward, hold on a bit; if all goes right, order more. We do not wish you to be disappointed in any way, if it can possibly be avoided.]

I hived my first natural swarm on the 16th of May; have hived 14 up to date, and there is prospects of hiving 100 more inside of 3 weeks. This may seem strange to you, but if facts are what you want, here they are. HIRAM ROOP, Carson City, Mich., May 19.

[Why, friend R., you and your bees "do beat all."]

THE chaff hives stand the hot weather beautifully, thus far.

Heads of Grain,

From Different Fields.

I SENT you a long letter some time since with a stamp enclosed, asking about the fdn., how to use it, &c., also some other questions. I expected to get a fatherly letter in return but instead I received a postal card with a few lines. My disappointment was great as I had formed an opinion of you as one having a large heart and wanting to help everybody along.
D. K. JONES, Watertown, Wis., May 14th, 1877.

Bless your heart my friends I *do* want to help everyone along but you have failed to consider that your letter is but one among thousands and that to give the answer you ask for, to everyone, would be one of the impossibilities; it takes a great part of the time of three different clerks to give answers to the kind letters even on postal cards, and for matters of such general interest as the fdn., you certainly would advise us to put the matter in print and thus give all the benefit of it, would you not friend D.? Every experiment I have made, and all I know about the fdn., as well as every other matter connected with bee culture, is carefully given in GLEANINGS, and when I sit down and deliberately prepare matter for print it is much more accurate than any answer I could give you if you should pay me a visit.

It seems hard to be disobliging dear friends, but when one has the care of a manufactory, an apiary, and the publishing of a journal besides, there is very little time left. I feel that I shall do most good all round, by giving my best efforts to GLEANINGS, and then you all will have the benefit alike. To do this well, I must spend much of my time in the apiary or I should be in danger of giving you theory instead of practice; again if you send me orders for goods, it is my duty to show the hands just how they should be made, as well as to try them in my own hives and see how they work, otherwise I should be taking your money without giving you a fair equivalent. I will read all the letters you may send—at least I am going to try to—but I am sure you will excuse me from trying to write kind answers to you all, will you not? I will also read all the cards that are sent you, and nothing shall be sent out in the way of replies that I do not endorse. If you wish to hear from me individually, please read your GLEANINGS with more care. I *am* very anxious to help and to please you all, am studying nearly all the time, plans to make your hives, extractors, fdn., &c., cheaper, simpler, and plainer for you to understand, and I take a rare pleasure in telling you each month what I have discovered, and in getting your postals telling me how you have succeeded.

SMOKERS.

Provided the Bingham smoker sent you was as good as the one I have your remarks are entirely misleading. The impression that you convey (but do not say so) is that they are a poor thing—that you could make and sell them for 50c. If that be true you are helping a swindle on the public by puffing the Quinby smoker. I bought one from you last year and it is not worth 10c in comparison with Bingham's. King makes a good Quinby smoker for $1,00. at least the one he sent me is a good one. I say, and the bee-keepers will say Bingham's is away ahead of any other smoker in the market and they did expect of you a fair and square criticism. I never saw Bingham, have no interest in any smoker, but I believe in giving everyone his due. Give unto Cæsar the things that are Cæsar's.

The Simplicity hive is good, particularly the cover. I think there should be a small entrance. The sections are ahead of any I have seen.
CHAS. J. QUINBY, White Plains, N. Y.

It really does seem that there is to be as great a difference of opinion in regard to smokers as in almost any other one thing. The greater part of our customers are well pleased with the Quinby smoker, and some of them are extravagant in its praises; but a few, seem just as much against it. The Bingham smoker sent us, bothers just as much by going out as the Quinby, and it is a very coarse awkward piece of machinery. The leather is sheepskin, the wood work rough and unpainted, and the tin tube fastened to the bellows with only a bit of twisted iron wire. In its praise, we can say that the tin case is much larger than the Q., and a strong plate of iron substituted for the frail wire cloth. We are very glad indeed to get a favorable report from the $1,00 smoker, as we feel sure that is the price they are destined to be sold at, but why in the world do you or Mr. King call it a *Quinby* smoker? Our manufacturing Yankees can surely give us something strong, handsome, and efficient for $1,00, and with the present demand, some one will surely do it very soon. Meanwhile purchase whatever kind you choose and let us all try to be pleasant about it, no matter what turns up.

The Red river valley is said to be a fine country for bee culture. However, in this latitude cotton is king, and it is almost impossible to draw the public mind from this all absorbing question to matters of minor importance. Occasionally here and there we find an individual who takes an interest in bees, and is willing to gather information on the subject. My neighbor, W. C. Gordon, has 36 stands. He with Dr. W. K. Marshall, are two of the most enterprising bee men known in this section of the country. Dr. Marshall's apiary consists of 100 colonies. His honey crop for the year just past, was nearly 9000 lbs.

The market for the sale of honey here is by no means good. The fact is, the people have to be *educated* to eat honey. Man is a creature of habit, he is loth to give up his Louisiana molasses and look to the honey bee for a purer and more delicious diet. Bees have wintered with us as usual on their summer stands, though the winter has been extremely severe for this climate. I have heard of the loss of but few colonies, and that occurred from starvation or rather a want of proper attention.

We have the Italian bee, it does well in this country; as a worker the hybrid is the favorite, it never tires, and in it, we have combined the good qualities of each type, even to the farthest extremity when slightly elongated. Yes, the hybrid stings. I would not have a bee without a sting. There is but one bee without a sting, and you call him "a drone." Honey is valuable and the armed warrior must protect his stores.

With due deference to "Old Fogy," let me say, no bee man is on the road to success without movable comb frames. L. L. Tomkies.

Shreveport, La., March 26th, 1877.

DISTURBING BEES IN WINTER.

Have lost a number of swarms by shoveling snow around the hives in Dec. and Jan.; 6 of them boiled out into the snow in consequence of getting too warm and all but one of these dwindled away.

W. H. S. Grout, Poland Centre, N. Y., Apr. 21, '77.

We are but beginners in bee culture, having commenced one year ago. We have 23 stands of black and hybrid (mostly heavy) in the "Betsinger" hives. We packed in chaff and all wintered till the last of March when we had cold damp weather with a heavy fall of snow, and before the warm days came on we lost a number, I think from dysentery. We are willing to work and anxious to become really bee-keepers. Those around us with the box hives have lost nearly or quite all their bees. Robert Forman.

North Wolcott, N. Y., April 28th, 1877.

MOVING BEES SHORT DISTANCES.

I thought best to give you some account of my success in moving bees. I received a postal from T. G. McGaw, stating that I could move them with safety a mile, but I had them all moved before getting his card. And now, brother bee-keepers I am satisfied there is no danger of bees going back to their old locality and staying. The excitement in moving causes them to mark their new location if let out before getting quiet. I do not believe I lost a dozen bees by their going back. I let them out as fast as drawn but none went back. When I got about two-thirds the way home with a load, the bees would meet me and gather round the hives following me home. Now my idea is that bees after having been moved will not go very far from the hive until they have thoroughly marked all the surroundings; they will venture but a short distance at a time and then return to the hive. My last year's crop of honey was extracted except 150 lbs.

GRAIN BAGS INSTEAD OF DUCK.

Do you know whether bees will gnaw grain bags or not, if used for quilts? If they will answer they are cheaper than the duck you speak of; with my size of hive I can get five quilts out of one bag. Oh, I forgot to say I wintered 39 swarms in the cellar without the loss of one or a queen, but after moving them, one swarm deserted its hive and united with another. D. Gardner.

Carson City, Mich., April 18th, 1877.

You neglected to state friend C., how far you *did* move the bees. It may be that the idea of letting them out just as soon as set down, is quite an important one, for we have known them to go back in large numbers and cluster on the ground and bushes, when moved, say less than half a mile. Perhaps the season of the year has something to do with it.

We have never used grain bags to any extent, but since you have mentioned it, we will make the trial. We find the stuff is not nearly as firm and strong as the duck, but it may for all that do very well. We should be somewhat afraid of the loose ends that are found in the bagging; after the bees once get a habit of pulling at these, they very soon get to biting holes through.

EARLY DRONES, FERTILE WORKERS, &c.

Some of my colonies hatched out young drones about the 15th or 20th of March. Why so early? I never knew of such proceedings before. Then I have a colony that seemed rather weak, and on examination could find no queen, but found 4 or 5 queen cells complete and capped over, also two queen cells partially built, with the larvæ or young queen considerably developed. Now, if there was no queen, whence came these queen cells with the brood in them? And if there was a queen why at this season of the year is there no other brood in the hive? These are new developments to me. Simson Stapp.

Hope, Ind., April 11th, 1877.

If the colonies that are rearing drones are full of worker brood, it is without doubt, only because they are in extra good condition. From your description of the one having queen cells, we should think it contained a fertile worker and that the colony had been queenless a long time. The queen cells in that case contain only drone larvæ, and will never produce anything. Fertile workers are always an indication of carelessness on the part of the bee-keeper, for he should always know that every colony contains a qeeen, and not guess anything about it. If you are led to think something wrong, you should be able to look into the hive and see whether they have worker brood or not, in about one minute; this you can do with a plain simple hive, every time, but with some of the patented ones, it might take you a half hour.

I would like to know if the "Tennessee Hive" is patented. It claims to have been patented Dec. 19th, 1871. The man here I think has sold in this county $1000 worth of rights, charging $12,00 for a family right. I bought $40,00 worth of hives after paying $15. for a right and am now transferring my bees into "Simplicities" and offering the Tennessee at a reduction. It is too much of a bee trap for me, and I would not have one now after seeing the Simplicity.

J. L. Caldwell.

Marlin, Texas, May 15th, 1877.

Why does it matter whether the hive is patented or not? Neither you nor anyone else wants it. Is not such about the case with all of the patent hives?

SPRING DWINDLING.

I think some of my bees have the spring dwindling, while some of them actually dwindle up and are full of bees—contain more bees than when I set them out. Does not the trouble to a great extent lie in bees from different colonies congregating or joining with certain other colonies. A. C. NORTHOUSE.
Grand Haven, Mich., April 24th, 1877.

We do not think the trouble is from bees getting into other hives, for they dwindle all the same when wintered on their summer stands. The evidence seems very plain to us now, that the whole trouble with spring dwindling has been caused by cold and open hives. When packed in chaff, even if the colonies are weak, we see nothing of the kind, and this explains why bees that winter finely in cellars, do so badly after they are set out. Whether in-doors or out, we think they should be packed in chaff or some similar material during the spring months.

I commenced one year ago with 4½ colonies, increased to 15, and took 150 lbs. comb honey. I put them in the cellar about the middle of October, took them out the first of February and packed them in chaff where they are at the present time and all doing nicely. WM. A. TOWLE.
Orleans, Mich., April 17th, 1877.

"EVERY ROSE HAS ITS THORN."

We have lost 102 stands of bees out of 120.
M. L. CLIFFORD, Lewistown, Ills., May 1st, 1877.

UNCAPPED STORES, ETC.

My 17 swarms all came through alive; 3 were queenless, 2 were weak and 14 all right. The swarm I put away with uncapped stores (see page 68 GLEANINGS) were sick when I set them out; their bodies were badly distended and they were reduced in a short time to about a teacupful. I put them with one of my queenless stocks and the queen is now laying finely.

Is not the reason of Mr. Doolittle's success with box honey, that he reduces the breed nest to the capacity of the queen? [Very likely. How is it friend D.?]

You can say to J. E. Dart, that a parasite has destroyed the largest part of our grasshopper seed eggs, though there are many sound ones yet. But we calculate to stay here unless they *starve* us out, for we were *here first*. O. W. PARKER.
New London, Minn., May 1st, 1877.

I have lost 15 colonies out of 38. Wintered on summer stands in Langstroth and American hives with blanket on top and 2 to 4 inches of chaff in supers. Of the bees in this vicinity three-fifths are dead.
DR. A. S. HASKIN.
Lawrence, Mich., April 30th, 1877.

My extractor and other articles arrived yesterday. I was pleased with the way you had packed all. Not one thing was out of place.
E. B. THORNTON, Bedford, Ind., May 5th, 1877.

I am just commencing in the bee business, and on rather a small scale at that. Bought two swarms in box hives last year—know nothing whatever about bees, asked advice of my "box hive neighbors" and as a consequence lost one of my old swarms by moths and let one swarm leave after they had settled nicely and waited two or three hours for me to hive them. My neighbors had told me they would never leave till middle of the afternoon, so I was taking more time fixing a *box* hive *nice*, than was really necessary I suppose and they left. Thought I was paying pretty dearly for experience. I have began to "read up" a little. I still have two swarms to start this spring with and my *hives ready*, and they are no *box hives* either. B. ROBISON.
Schell City, Mo., April 20th, 1877.

Hive your swarms just as soon as they get clustered, and if you start them running into the hive before they are all clustered, it will be all the better. It is rather poor economy to raise bees and then have them "cut sticks" for the woods.

The last of the 5 swarms of bees you sent me, came to hand yesterday. This morning, I removed the sticks that were between the frames. They have all appeared to be good strong ones, and are entirely satisfactory. The first were very busy yesterday and the day before in carrying in pollen.
J. T. AULLS, St. Clair, Mich., April 24th, 1877.

I have a colony of bees that are queenless, (found the queen dead in front of the hive a few days ago) is there any help for it? I suppose I can not get a queen this time of year. E. H. KINYON.
Quincy, Mich., April 30th, 1877.

We think if you take a look inside of the hive that you will find they have a good queen, and they have only dragged out the old queen after her death. This is the way in which they are usually replaced, and the two have probably been in the hive all winter. It is a very unusual thing for bees to become queenless under such circumstances, for as soon as their queen shows signs of failing—the bees discover any such symptom long before you will—they promptly set about rearing another.

The bees shipped on the 23d, I received on the 28th, in good order. I think there were not more than 100 dead bees in each hive; the packing was excellent, one hive is a little stronger than the others, but I am satisfied with both. Is not that pretty well for shipping over to Canada? ROBERT SMITH.
Durham, Bentruck, Ont., Canada, Apr. 30th, 1877.

ARTIFICIAL SWARMING.

I have 7 hives of black bees which I want to increase more than is usual in this climate (that is 1 to 3). Now, as I have two story hives with 8 frames above and as many below, could I not take one frame containing brood and one of honey from each hive put them into an eighth hive, and replace these with frames containing comb foundation? To the new hive I shall also give two frames of fdn. and an Italian queen. Our seasons are very long here and not sufficiently cold to injure vegetation until December. I propose to go through the hives as above, once a month. W. A. ROBERTSON.
New Orleans, La., May 8th, 1877.

Your plan will work nicely, but so much manipulation is considered rather too much trouble with a large apiary. We once increased 11 colonies to 48, in just that way and wintered them all, and did not have fdn. to help the matter along either.

You say artificial swarming is simply taking frames of brood and bees from hives and making a colony of them. Now with me it is not so simple a thing to do. We have to be very careful not to get the queen, and to look each comb over carefully to find her and arrange the whole takes me about half an hour. Some who have tried drumming out swarms say it don't pay. Now the way I intend to try, is to change the full hive for an empty one taking the frames out and brushing the bees into the new hive, queen and all, leaving only a few bees in the old hive and giving it a fertile queen if I can get some extra ones raised by that time. If my plan is wrong say so, and please suggest a better one as swarming is the next thing in order. We prefer natural swarming to anything else but don't like four or five swarms in one.

Bees in fine condition; lost 7 out of 43 packed in chaff. Is three inch space enough for double wall chaff hive? K. M. BARBOUR.
Alamo, Mich., May 6th, 1877.

Your plan is a very good one with the exception of shaking off the bees; that part of it is just what you must not do, or you will have the larvæ dying of starvation, if not by getting chilled. If you give them a laying queen, they will get along very well by simply carrying the hive away, as we direct in the A B C book. Three inches of chaff might do if it was put all around them, but we should prefer from four to six inches.

How is it that my best Italian hive of beautiful yellow bees are bringing out all black drones?

We think if you look closely, you will find they are not *black;* the color of drones varies greatly.

Must drones always be visible before making artificial swarms?

Must be visible when queens are 10 days old.

How should queens be kept after hatching if not wanted for a week or two?

E. Notler, New Orleans, La.

It is a very easy matter to keep them caged in a hive, but it is a very hard matter to get them introduced (if unfertile) by any plan we know of after they are a day or two old.

DESERTING THEIR HIVE IN THE SPRING.

I have 90 stands of bees; but they have become "communists," it seems. Since I set them out nearly all the bees from about half the hives have left and gone in with the rest, in some cases leaving only two or three dozen bees with the queen. I am trying to persuade them of the folly of such nonsense, but they don't hear to reason "worth a cent." I have the plain box hive with movable comb frames. I like the looks of your Simplicity "in a book."

C. W. Hinman, Clear Lake, Wis., Apr. 21st, '77.

I took 185 swarms of bees from the cellar to-day. Generally in good condition. Lost three.

L. C. Root, Mohawk, N. Y., April 25th, 1877.

The L. frame is usually called for, in hives and nuclei. The call for bees has been very great this spring. I could not fill the orders owing to my great loss of bees by the cider mills last fall. My experience with New Idea hives is this: I can breed the most bees in them but can not get the amount of honey according to strength of colony. I prefer a two story hive, because I can get more honey. I never could get any comb honey on account of bees carrying pollen in the surplus sections or frames. They are splendid to winter in; I lost none in wintering in them for three years. J. M. C. Taylor.

Lewistown, Md., May 4th, 1877.

The comb fdn. by mail reached me in splendid condition. Am much pleased with it, and have no doubt the bees also will be. Am glad you sent it whole, it was no trouble to cut it up to suit myself.

Alfred McMains, Chariton, Iowa, May 10, 1877.

Can't you induce Southern bee-keepers to contribute more to your columns? There is a great deal of space devoted to wintering that is of no interest to Southern bee-keepers. I think the prevention of swarming in the South, is of as much importance as successful wintering in the North.

PREVENTION OF SWARMING.

This spring I have tried everything I ever heard of to prevent swarming and all have failed. I have taken all their combs away except one of brood and one of honey, and they would swarm in 4 or 5 days after. One hive swarmed 4 times in the month of April. I have moved some to a new stand when the second swarm came, and they would swarm the third time. I now move the old stand to a new location, when the first swarm comes, and place the swarm on the old stand giving it all the comb but one frame and so far have prevented a second swarm.

VERY THICK HONEY AND HONEY GATES.

I want to quarrel a little about the extractor I bo't of you in 1875. Over half my time is lost while extracting, waiting for the honey to get out of the way. I can not extract two well filled combs without stopping. With the number of hives that I have now it will be out of the question to do my extracting with it. It cost me $12,75 cost and carriage. Can there be a larger gate put in? I think it strange you sent out so many before finding out that your gates were too small. Perhaps our honey is thicker than yours. I never extract uncapped honey.

How do you keep the point of knife from sinking into the combs? I find it a difficult matter to use it; if the heel and point rest on bottom and top bar the middle of the knife sinks into the comb.

T. W. Johnson, Verona, Miss., May 10th, 1877.

We can use but a small part of the correspondence sent us, and we have endeavored to have our friends all represented as far as possible.

After you have given them plenty of room by extracting the honey, or given them sections, if they then persist in swarming, we should say let them swarm, and prepare yourself to sell bees as well as honey. The plans you mention of moving the hives are perhaps the best for preventing after swarming.

We are astonished that you should have wasted very much time friend J., with a gate that was too small. Why did you not cut a hole through the bottom of your can and set the extractor over a tub or similar receptacle? It is true that would be a rather desperate remedy, but it would be better than wasting time in waiting for honey to run out. If you have a tinner who can put in a large gate, we will send you one without charge, and pay expense of putting it in. We used but a very few of the small gates before we discovered the mistake.

We do not find any such trouble with our knives as you mention, yet as there are those who prefer a curved or bent point, we now keep both kinds on hand. As it is an extra task to finish the latter, the price is $1,15; sent free by mail.

The extractor is just the thing—getting plenty of honey for the table and some to spare. The section boxes with fdn. you sent me are being filled out beautifully. R. Thomson.

Terry, Miss., April 24th, 1877.

CHAFF PACKING.

My bees have wintered splendidly. I packed in chaff, in dry goods boxes. I first took the box and cut an opening in one end, the size of the front end of the hive, then hinged on the piece making a drop door. I then set the hive in the box, with the front end to the opening, put a quilt over the frames, put on the cap, and packed chaff 4 to 6 inches thick around the sides and on the top. In extreme cold weather, I would drop the door in front, closing them in entirely from the cold. When warm enough for them to fly, I had only to raise the drop door, and they were just the same as on their summer stands. I have them still packed in the chaff, and the heat *in* the hive is so great that it warms entirely through the end pieces of the hive. I shall hereafter winter my bees packed in chaff.

J. Mattoon, Atwater, O., May 14th, 1877.

The above letter sounds cheerful, compared with the one we got from friend M. just two years ago. Just read it.

Please don't send me more than one Italian queen, until you hear from me again. Have lost 12 colonies out of 13, but shall buy some more if I can.

James Mattoon, Atwater, O., May 5th, '75.

The reports from the chaff packing, seem all alike from all sections of our country, and it really does seem as if an effectual remedy against the wintering troubles is in our hands, simple though it is.

CHAFF AGAIN.

I can give good testimony in favor of chaff packing. I packed two Italian stocks in a dry goods box and they are very populous, sending out the strong current of warm air that you speak of. I looked at them Friday last and found brood in all stages and in *every* comb, and so many young bees and old that there scarcely seemed room for the hatching brood, while others that were not cared for, are not half as strong. Shall pack all next winter if providence permits. I believe I can winter without loss. I think the main secret of my success with chaff consisted in unpacking in warm days in winter and allowing the chaff to dry, thereby preventing dampness. A neighbor who did not use this precaution had less success than with no protection whatever. Yours for chaff,

Le Roy, N. Y., May 8, 1877. W. C. Gillette.

Our Homes.

"With malice toward none and charity for all."
—*Lincoln.*

TOWARD the close of our revival meetings, rumors reached us of the great temperance work that was being done by the bands of Murphy workers all over the state, and even in adjoining towns. As saloons were rather on the increase in our town, it was suggested that we send for some of these workers to come in our midst, and show us how we too might do something in this work that was doing such wonders for the cause of temperance. In answer to a telegram, four young men came, and to our surprise did nothing more than to read a chapter in the Bible, followed by a brief prayer, and then exhort everybody to come forward and attach their names to this Murphy pledge, which I will give below just as they brought it to us.

YOUNG MEN'S TEMPERANCE UNION.

"WITH MALICE TOWARD NONE AND CHARITY FOR ALL."

I, the undersigned, do Pledge my word and honor,
GOD HELPING ME!
to abstain from all Intoxicating Liquors as a beverage, and that I will, by all honorable means, encourage others to abstain.

Francis Murphy. ....

During the meetings, hymns from the Moody and Sankey collection were frequently sung, and short speeches were made by anyone of the congregation who felt disposed, or by those who had recently taken the Pledge. These friends told us the work was emphatically a work of the people, and that no talented oratory was needed; in fact that the most powerful aids we could have, were short speeches from our own townsmen, who had reformed, and whose changed lives, in themselves, spoke whole volumes in favor of the work. At our very first meeting, the first name that was put down, was that of one who had been one of the most hopeless in our village and his example was so contagious, that very soon the columns swelled to hundreds, numbering very many who were moderate, some that were hard, with the multitudes who were not drinkers at all. It really did seem as if some potent charm were embodied in that mild and simple little Pledge, for with a harmony of feeling that heretofore had been almost unknown among us, people of all grades and classes joined hands in the work, and with every boy that came forward, no matter whether from the lowest and most unnoticed walks in life, no matter how disgraceful had been his past conduct, kind and cheering words and cordial handshaking were the new order of the day, and it was no wonder at all, that all the good that was in everybody, seemed bound to let itself out, and to shine on community around.

Of course we had to carry the glad tidings to the mission Sunday school, and a lot of our Medina boys who would at other times have been as ready to face a loaded cannon almost, as to think of standing up before an audience and talking in favor of temperance, went out to engage in the work, and were rewarded at the very outset by getting the names of one of the saloon keepers in the place. This man, has had the delirium tremens several times, and was in a state of intoxication when he desired his name put on the Pledge, yet strange to tell, he appealed most feelingly to those present, to help him keep his Pledge, to come forward and sign it and help hold him up in his good resolutions. He also spoke of his good old mother whom he had grieved so often, and of the joy and pleasure it would afford her to hear of the step he had taken. The man has so far as we know never taken a drop since, has taken a farm, and bids fair to prove an honest and industrious man. Our boys were so elated at their success, and so thrilled with that peculiar joy that I believe always attends mission work, that they were enthusiastic in their determination to visit every town and school house in our country. Their own feelings had been touched, and their hearts softened to such a degree that they talked of their past misdeeds, and formed resolutions for better things in a way that really brought the tears to my own eyes. Most fervently I prayed that nothing might mar or turn them away from this good cause, and that they might really go on as they started.

Several weeks have passed, and the work has gone forward and prospered. More than a thousand have signed the Pledge, and many of them are working now more earnestly in the cause of temperance, than they did a few days ago for the cause of intemperance. Their faces have brightened up, they look resolute and cheerful, and are clothed and in their right minds, they are sitting at the feet of Jesus—as I do verily believe, although they may not be willing to acknowledge the source from which this new life comes just yet—teachable, and being taught daily.

My friends, if the Murphy Pledge has not been already circulated in your midst, you can if you wish set about it at once, with no other help than what you may get among yourselves and the simple directions we give you here.

Have some Murphy cards printed as we have given them, and you are ready to call a meeting. Go to all the ministers in the place, or in the neighborhood round about, get their hearty co-operation, and if you have yourself, any spite or unkind feeling toward anyone, no matter by what name you call it, get that entirely out of the way. Perhaps the first thing for you to do will be to fall on your knees in your closet and ask God to help you see your faults, in such a way that you can extend a kind and friendly hand to every individual you meet, without *any exception.* No excuses; there is no combination of circumstances that need stand in the way of your doing *your* duty, no matter what others may do. "Malice toward none and charity for all," is to be your watchword, and beware how you forget what those simple lines mean. Appoint a meeting, have it announced in the churches, and take every possible means to get everybody to come you can, consistent with this same spirit of kindness. Have plenty of singing, selecting such stirring pieces as "Hold the Fort," "Rescue the Perishing," and the like, and get everybody to singing if possible. No matter whether they sing well or not, get everyone to help. Always open the meeting with a prayer for divine blessing, and a chapter from the Bible. The chapter mentioned last month—Luke vi—seems to answer excellently. Now have another song, and while they are singing, invite everyone present to come up and put down their names. If your audience is large, you will need two tables or stands for your paper, ink and Pledges, and a couple of secretaries should be appointed who will hand the signers the pens, take care of and count the names, and write them for young or old people who find it inconvenient to write themselves. These secretaries are in importance next to the chairman of the meeting, and can by their timely hints and remarks, help the matter along amazingly if so disposed. While the people are signing, call on those who have signed, to say a word, especially those who have been intemperate, for if you can once get them to exhorting and encouraging the rest to come along, you will find they are becoming stronger and stronger every day. Incidents and anecdotes will come up to make the meetings lively and entertaining, more so than you can possibly have any idea of until you have tried it, and you will find in your next door neighbor's house those who have a talent for public speaking—possibly in your own house also—such as you never dreamed of. Should you send away for some great speaker, the effect would very likely a great part of it pass away with him on his departure, but if the work is done by your own townsmen, they will be on hand to follow up the effect of their teachings and to live it as well as talk it.

There will be those in every community who will object and find fault, but you will need that same broad charity for them, and a disposition to disarm them by taking them just as kindly by the hand if they do not sign, as if they did, and to try and live out the idea of heaping coals of fire on the heads of those who are disposed to hinder even such a thing as a temperance movement. If some one says he objects to signing any paper, or cutting off his liberty in any way, you can cite to him the time when George Washington signed the Declaration of Independence, or to the time when he received a deed of his farm, etc. Never argue, but talk kindly and pleasantly, and you will be astonished at the way in which even stubborn people may be induced to display good and excellent qualities.

When you get the ball rolling near home, start out into the country, and every Sabbath, manage to have one or more good Sabbath schools somewhere, getting the young men who have just signed to go with you and help; you have no idea how pleasant these meetings may be made.

It will be quite proper Sabbath evening, to have several communities join, and have a large meeting, in the largest church—if anyone objects, it will probably be because you have not followed the true spirit of the Murphy movement, which is above all things, a religious one.

This Murphy, as you may have read, was a poor drunken fellow, who was rescued from the gutter by a good Samaritan, and who when thoroughly converted, felt that he could in no way show his gratitude so well, as by trying to rescue those who were low down, discouraged, and hopeless, as he had been. For a long time, he labored apparently almost in vain, but bye and bye, he got a few to join him, and then the work went on The Murphy club with their blue ribbon badges, were soon known all through the city of Pittsburgh, and soon we hear of a prominent saloon keeper telling his clerks that the first one of them who sold a drop of liquor to one of the Murphy men would be discharged instantly. After awhile the saloons began to find their trade so dull, that bankruptcy stared them in the face, and soon a large number of them threw up the business, signed the Murphy Pledge, and took to something better for a living. The most glorious of it all, was that they did it all pleasantly, without an unkind word being utttered to anyone, and very soon we heard of Murphy's band of 60,000 reformed drinkers, who marched the streets of their city proclaiming the glad news of rescue and salvation to those who were held in a bondage more fearful and tyranical, than perhaps ever held the poor negro in the days of old. "God helping me, I will be free," and free they were in every sense of the word, for hundreds testified that the old appetite was taken away entirely, when they on bended knee, asked the Saviour to take away that tormenting thirst, they feared so much. This miraculous taking away of the appetite, seems to come oftenest, when the suffering one goes earnestly into the work of saving others; and dear readers do you not believe after all, that we are more like a hive of bees than has ever been supposed, inasmuch as we can not really exist and enjoy life unless we to a certain extent all work together, for the common good of all humanity.

Is this talk a good ways off from bee culture? I do not feel that it is so very far. Some of the brightest writers we have ever had in our Journals, have had their intellects clouded and dimmed by this very—shall I say misfortune?—and are perhaps even now, ready to take up a new life, if they could have the very encouragement that the world is now extending to thousands of others. How is it my friends? Shall we not at least make the effort? We can at least pray for them, and we can ask that our own hearts may be brought into the proper spirit, that our effort may be blessed when the time to act comes, and we can meanwhile keep working for those around us, and thereby help this great work along, of stripping intemperance from our land as if it were an old garment that had been worn far too long already. May God be with and guide and help us.

In regard to this department: Many kind letters have been received with warm words of approval of GLEANINGS, but more for this department than for all the rest of the paper—far more. At the same time, I have during the past month, had three protesting against it. In answer to these three, I would say, the Bible has been the means in our town of turning men, women and children, from bad and evil ways, to such an extent during the past few weeks, that our worst sceptic—a smart lawyer—said that any man must be an idiot, who would not say "God speed the work." I have good reason to feel that you all have seen similar work, where the real spirit of Christianity was at work. If Spiritualism, scepticism, infidelity or anything else should produce such an effect upon its followers, it might seem that there was a Divine hand in it, and we should then see bad, dishonest men pretending they believed in such things for the purpose of making a cloak of them. Where men go into the business of counterfeiting, they usually try to make dollars, not copper cents, and Spiritualism has borne such fruit in our vicinity that one would be crazy indeed, who would pretend belief in it from selfish motives. Those who take the Bible for their guide *in true sincerity*, always begin straightway to show its divinity by their lives and actions. Do not take my word for it, but look about you, and when you perceive the fruit it is bearing, oh, my friends, do beware how you drop a single word, even in jest, that may discourage any one who may be just thinking of a better life. I know full well, of the difficulties that are to be met in trying to reconcile all that we find in the Bible, but, my friends, are there not also difficulties elsewhere that *we* are unable to reconcile? If we see swearing, fighting, and drinking men made better, do we not feel like letting the difficulties drop, and joining in and helping the best we know how? To be sure we do, for we feel it is God's work, no matter what be the sect or creed it comes from.

DEPOSITORY OF

Blasted Hopes.

Or Letters from Those Who Have Made Bee Culture a Failure.

THE last has been a hard winter for bees in this county. One man lost 40 out of 50 stands; others from one fourth to one-half the number they had last fall. As a general thing they left from one-fourth to one-third of their honey in the hive. The bees commenced to die in the early part of winter and by spring some hives had lost all, others had a few bees left but not enough to start up with again. The cause is not known. J. VAN LIEW.
Light Street, Columbia Co., Pa., May 8th, '77.

I was glad you did not send the extractor, as I have lost all my bees but 6 stocks and they are in box hives. Have always had good success in wintering on summer stands until last winter. My bees in the Union frame hives died before those in the box hives. My best stocks froze first, and if the weather continues as cold as it now is I shall have to report blasted hopes. I don't think I could raise a very large club as everyone is so discouraged. Nearly all the bees are dead in this section. One friend that has two swarms left, said he thought he would take GLEANINGS as he had got to have something to help him.
A. J. CRISS, Potter Centre, N. Y., May 10th, '77.

I was surprised to find my letter under "Blasted Hopes" and "those who have made bee culture a failure." It is true we lost very heavily, but our "hopes" are not all "blasted" yet. Although we made almost an entire failure in wintering we got 3575 lbs. of honey last year. To take the six years before into consideration we think we have not "made bee culture a failure." Especially when you consider the fact that we commenced with six hives, and have sold about 40 colonies in the time, and over 8000 lbs. of honey. We have at present 70 stands, 30 of them in box hives which we intend to transfer soon. They are divided into seven lots, and situated in different parts of the country, which gives us a chance to test different localities. We have over a hundred hives full of comb and some with honey and expect to recover our losses this year and have a little surplus to cover expenses. CHAS. W. LAFFERTY.
Martinsville, Ills., May 14th, 1877.

Beg pardon friend L., but you see we must have something for "Blasted Hopes," and your letter was the nearest it of any we could find. We are very glad to hear you are not discouraged. Will some of those who have made real genuine failures, please speak out?

Well, we have certainly hit the nail on the head *this* time any way, for our next friend has had his hopes blasted or our name isn't Novice. Listen:

My report for this spring is not as encouraging as some, yet it might be worse. Last fall I packed 10 good stocks on their summer stands with six inches of chaff; all in good order with plenty of sealed stores, but my yard is on the north side of a hill with no wind break and the long cold winter did it for them. They took the dysentery, spotted their hives up terribly and then were attacked by the spring fizzle, and one after another fizzled until I now have but one hive left, and that has not over a pint of bees in it, but the queen is doing her share toward building up, depositing two eggs in a cell. All the rest of my pets have gone where the woodbine twineth, but thank fortune they left me their hives, also a fine lot of comb, and if providence permits, and the water don't raise you will hear from me again. Wait until I get my 8 feet board fence around my yard. By the way, would you advise me to arrange my one lone hive in a hexagonal or an octagonal form?

Now I suppose you will put me in the column of "Blasted Hopes," but we will lay it to the blasted cold weather and remember all of our expensive lessons.
W. RUGER, Binghampton, N. Y., May 16th, 1877.

As sure as you are alive, here is another unfavorable report of chaff. Guess your apiary will be on the "monogonal" plan, friend R.

I moved my bees over 100 miles and lost them all, but am going to get some more. My hopes are not "blasted" but I lost my bees.
J. J. MCWHORTER, Polo, Mich., May 14th, 1877.

Why friend M., you are as bad as the soldiers that didn't know when they *were* whipped, but kept right on fighting. If *you* do not belong here, we shall really be in despair.

BLASTED HOPES.

FRIEND BOLIN'S REMEDY.

I HOPE Mr. Fletcher will not "give up the ship" and abandon bee culture in disgust, as I think it can be made to pay in spite of all the drawbacks he enumerates. It is true it requires considerable care to insure success; and pray what business does not require that if we would succeed in it?

Now as to the poor seasons; good strong stocks are a sure remedy for them, for I never knew a swarm so poor that a really strong stock of Italians would not get enough to winter on and a fair amount of surplus for their owner. They will store honey when medium and weak stocks will starve. Long cold winters—a good warm depository, either house or cellar will guard our bees against them. Backward springs—strong stocks properly wintered are proof against them, let them be ever so backward. It would have been a strange spring indeed that would have injured a great many of my stocks this spring, with the hives running over with young bees.

Low prices for honey; keep our bees strong and get plenty of honey, then we can afford to take a low price for it and thus put it within reach of the laboring classes. Very poor business to depend on for a living; now I have wheat growing that will in all probability, judging from present appearances yield from 30 to 40 or even more bushels per acre, and I have swarms in my yard that will probably yield me as much clear profit as an acre of that wheat, yet who says farming don't pay.

I have been trying bee culture for a number of years and think with Mr. Doolittle, it pays, although many of my neighbors who keep them on the brimstone plan think differently; in fact a great many who kept bees years ago have given it up.
JAMES BOLIN, West Lodi, O., May 11th, 1877.

WHAT WE HAVE ACCOMPLISHED DURING THE MONTH, IN THE WAY OF NEW INVENTIONS.

GAUGING ACCURATELY THE SIZE OF HIVES.

OUR iron gauge frames have proved an excellent thing, but we very soon discovered that our blacksmith could not make the frames all exactly alike. This was rather a serious matter, for we have been sending them to all parts of the U. S., and if we want all the hives to match, no matter by whom made, or where, it was a matter of the greatest importance to have them exact. We finally had a cast iron form or anvil made, just 16 by 20¼, very exactly square and true, and now our iron frames are driven on this while hot, then cooled that they may shrink close to the anvil, like putting on a wagon tire. This brings them to a hair's breadth, and we have ceased to feel any more solicitude in regard to exact dimensions of hives. Be sure that your stuff is planed to ⅞ exactly, and you can then buy and sell bees as much as you like and all frames and hives that are made in these iron gauge frames will be interchangeable.

FASTENING FDN. INTO FRAMES.

Slip out the comb guide and lay it on the table; then with a putty knife or something similar "butter" the edge of the fdn. down closely to the dry wood, keeping your knife moistened with honey, but being careful to get none on the wood where you wish the wax to adhere. When done, slip the comb guide back into the frame. We are indebted to friend Baldridge of the *A.B.J.* for the above. Now, our improvement we can illustrate by asking you to let the leaf of your dining table part way down, and then slip the comb guide and edge of the sheet of fdn. into the crack along the hinge. Raise the leaf just far enough, but not so as to injure the table, and your wax is as firmly fastened to the wood as if melted there. Of course you are to moisten the edges of the table with honey, to prevent the wax adhering to it. Now with a very simple wooden press you can fasten in the sheets of fdn. as rapidly as an assistant can hang them in the hives, without taking the comb guides out at all. The plunger, which is to be kept moistened with honey, should be operated by foot power.

FDN. AND BROOD REARING.

The idea that the queen will not use the fdn. has become a pretty big joke. Our combs that were made from it last season, are now filled with brood from end to end, and from top to bottom bars, and the queens seem to have a *particular* fancy for them all through the apiary. It *is* true that the fdn. made 4½ cells to the inch occasionally contains drones, and this is occasioned by the sheets stretching slightly. There is considerable difference in the firmness of natural wax, and also in its liability to stretch, and on this account we prefer to have the lower edge of the sheet at least ¾ inch from the bottom bar; unless we do, it will sometimes reach the bottom bar and then bulge. With 5 cells to the inch, we never have any drone comb, and we have found the queen filling the sheet with eggs in less than 24 hours. Although we opened the hive several times a day to exhibit the work to visitors, we invariably found her sticking to her task, until the frame was full. On the third day we found a new queen cell containing an egg, all built of the wax put into the fdn., as was plainly evident from the different color of their own wax.

Reports of similar successes of the fdn., for the brood apartment, are coming in from all sides, and we are sending out sheets by the thousand, cut expressly for brood frames. They contain so much more brood than the natural combs, that it is going to be quite an object to dispose of the latter, even at low prices. On this account bees will be sold lower this season perhaps than they were ever before. Comb honey will likely be sold low also, and we advise our readers to accept of a fair offer for their honey as soon as it is off the hives. Wax bids fair to run up rapidly, and it will be well to save carefully every particle from the frames, hives, bottom boards, etc.

MAKING THE FOUNDATION.

Until within the past week, all fdn. has been rolled by the aid of soap and water, to prevent adhesion of the wax to the rolls. We now dispense with soap entirely, and use a thick jelly of slippery elm and water. The discovery was made by one of the girls who work the machines. While this works nicely on the rolls, it will not answer for soaping the upper edges of the dipping plates; for this we use *soap bark*, to be had of the druggists, which leaves nothing on the wax that can be detected by either sight or taste. The bark is simply broken into bits and thrown into water, until the water becomes sufficiently soapy. The fdn. needs no washing, after it leaves the rolls. The slippery elm we use plentifully, but the soap bark solution is rubbed on quite sparingly with a bit of cloth.

OBITUARY.

DR. E. KIMPTON of Cedar Creek, N. J., whom most of our readers are familiar with as a pleasant writer for our journals, died suddenly May 13th. One of his neighbors writes as follows:

We as a community deeply mourn his loss, for all had learned to love and esteem him both as a man and a physician. His Christianity was of the highest order, and his death a peaceful, happy one. His disease was consumption, and as he anxiously awaited the end, no murmur escaped his lips. He was a man without an enemy. A friend of GLEANINGS, his face would light up with smiles when the new number was brought into the room.

F. M. PEELER, Forked River, N. J., May 22.

ITALIAN BEES.

Full colonies $10,00 each; tested queens $3,00; warranted queens $2,00; not warranted $1,00. Queens bred from imported mothers and selected home bred stock. Sent by mail at my risk. SWARMS shipped in Langstroth hive and one frame of comb $7,00. Langstroth hives single one $2,00. Lots of 5 to 10 at $1,50 each—cap 7 inches, one coat of paint, no portico.

T. G. McGAW, Monmouth.
6-9d Lock Box 61. Warren Co., Ill.

1877. Italian Queens. 1877.

Italian queens, warranted as good in every respect as tested queens, $1,00 each. Safe arrival guaranteed by mail.
H. ALLEY,
6 Wenham, Essex Co., Mass.

COMBS.

In the Standard Langstroth frame at 25 cents each. My former partners having quit the bee business, we have a quantity of good combs at above price.
4tfd Address F. T. NUNN, Peru, Huron Co., Ohio.

At a Cost of less than ONE CENT per week.

The N. J. Agriculturist & Our American Farmer.

A Plain Practical Journal, devoted to the Farming, Gardening and Household interests. Tells when and how to plant. Hints for each month. Domestic Economy, illustrations, etc. Only **50 Cents** per year. Sample copies on receipt of stamp.
Address N. J. AG'L'ST & OUR AM. FARMER,
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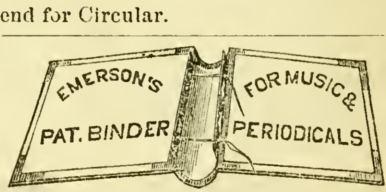
COMB FOUNDATION

50c. PER POUND.

Warranted Pure Beeswax.

C. O. PERRINE, CHICAGO.
Send for Circular. 6-8d



You cannot look over the back No's of GLEANINGS or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said—"Dear me what a bother—I *must* have last month's Journal and it's no where to be found." Put each No. in the Emerson Binder as soon as it comes and you can sit down happy, any time you wish to find any thing you may have previously seen even though it were months ago.

Binders for GLEANINGS (will hold them for four years) gilt lettered, free by mail for 50, 60, and 75c, according to quality. For table of prices of Binders for any Periodical, see Oct. No., Vol. 2. Send in your orders. A. I. ROOT, Medina, O

THE
British Bee Journal,

Is a large, beautifully printed, and profusely illustrated MONTHLY; clear type and fine heavy paper.

It is conducted by CHARLES NASH ABBOTT, Hanwell, W., London, England. Annual subscription, half-a-guinea.

We will send it with GLEANINGS and pay all postage for $2.50.

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our tenth edition circular found in April No., Vol. V., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required*.

Canada postage on *merchandise* is limited to 8¼ oz., and nothing can be sent for less than 10c.

BEES.

	Bees, full colony amply provided for winter, in our new two story, chaff hive (described Nov. and Dec. No's., '76), tested queen from imported mother, safe arrival guaranteed..(Lawn hive $1 more.)..	$15 00
	The same in a 1 story Simplicity hive	13 00
	The same in old style L. hive with portico, etc	12 00
	The same with hybrid queen	10,00
	Not provisioned for winter (hybrids in old hive)	7,00

For an imported queen in any of the above, add $5,00

We think we can prepare bees for shipping safely any month in the year; when we fail in so doing, we will give due notice.

0	Binder, Emerson's, for GLEANINGS	50, 60. 75
	Balances, spring, for suspended hive (60 lbs)	8,00
60	Blocks, iron, for metal cornered frame making	15

One of the above is given free with every 100 frames, or 1000 corners.

	Barrels for honey, $2.50; waxed and painted	$3,50

Buzz-saw, foot-power, *complete*; circular with cuts free on application. Two saws and two gauges included. $35 00

0	Buzz-saws. extra, 6 in. 1.50; 7 in.. 1.75; 8 inch..	2 00
60	Buzz saw mandrel and boxes complete for 6 inch saws	5 00
	The same for 7 and 8 inch saws (not mailable)..	8 00
	Comb Foundation Machines complete....$30 to	100 00
30	Chaff cushions for wintering	30
25	Chaff cushion division boards	20

Half price without the chaff, and postage 5 and 8c.

20	Candy for bees, can be fed at any season, per lb.	17
20	Corners, metal per hundred	75
25	" " top only	1 00
15	" " bottom, per hundred	50

On 1,000 or more a discount of 10 per cent. will be made, and on 10,000 25 per cent. The latter will be given to those who advertise metal cornered frames.

	Corners. Machinery complete for making	250 00
10	Clasps for transferring, package of 100	25
0	Cards, queen registering, per doz	10
2	Cages " all of metal	10
2	Cheese cloth, for strainers, per yard	10
12	Duck, for feeding, and covering the frames—bees do not bite it—per yd. (29 inches wide)	20
	Extractors, according to size of frame $7 50 to	10 00
	" inside and gearing, including honeygate	5 00
	" wax	3 50
7	Feeders. 1 q't, tin, can be used without opening the hive, in warm weather—neat and simple	10
25	The same. 6 qts, to be used in upper story...	50
4	Frames with Metal Corners	05
5	" " Sample Rabbet and Clasps....	10
10	" Closed end Quinby, nailed	05
18	Galvanized iron wire for grapevine trellises per lb. (about 100 feet)	20
0	GLEANINGS, Vol's I and II, each 75c., Vol IV	1 00
0	" Vol. III, second-handed	2 00
50	Gearing for Extractor with supporting arm..	1 50
20	Gates for Extractors tinned for soldering...	50

SIMPLICITY BEE-HIVE.

	One body and 1 cover in the flat, as sample to work from—one sample frame included	80

One story hive for extractor (body 50c—2 covers 60c—nailing and painting 20c—quilt 25c—10 frames 60c—crating 10c) 2 25

One story hive for comb honey is precisely the same as the above, substituting 2 frames of sections for 4 metal cornered frames 2 25

The above 16 sections will be fitted with fdn., and starters ready for the bees, for 15c, and the tin separators added for 10c, making whole complete 2 50

The above two hives contain everything used in a 2 story hive. We simply use another body filled with frames or sections, for a 2 story hive.

For a 2 story hive for the extractor, add (to 1 story 2 25) body 50c—nailing and painting 10c—10 frames 60c—crating 5c, making complete 2 story containing 20 frames 3 50

For a 2 story hive for comb honey add (to 1 story 2 25) body 50c—nailing and painting 10c—6 frames of sections 78c—1 metal cornered frame 6c—crating 6c, making complete 2 story containing 7 frames and 64 sections 3 75

If filled with fdn. starters 60c—if also filled with tin separators 40c, making $4 75, if two latter items are wanted.

An upper story filled with sections, fdn. starters and all ready to be set over any L. hive $2,75

To prepare the above hives for winter, put in place of the 2 outside frames chaff cushions, price 20c each, and a thick one on top 30c.

Iron frame to gauge size of above hives, and to hold them true when nailing, size 20¼x16 inside.... 75

	CHAFF HIVE FOR OUT DOOR WINTERING, 10 frames below, and 14 frames or 80 section boxes above, well painted and finished complete ....(Lawn hive $1 more.)	$5 00

These hives, if supplied with stores, will, we hope, need no attention whatever, from the time honey ceases until it comes again the next season.

0	Knives. Honey (½ doz. for $5 25, or $5 by Exp.)	1 00
	" " curved point $1.15..per ½ doz	6 25
	Labels for honey, in blue and gold, dark bronze and gold, or in white printed in two colors, furnished with your own address, and source from which the honey was gathered, already gummed, post paid by mail, (no order rec'd for less than 250). At these low rates, the full number mentioned *must* be ordered without the change of one single letter of the type....1000. $3,25; 500, $2,40;	250, $1,80
0	Lithograph of the Hexagonal Apiary	25
	Lamp, Nursery for hatching queen cells as built	5 00
0	Larvae, for queen rearing, from June to Sept.	25
15	Microscope, Compound, in Mahogany box...	3 00
0	Prepared objects for above, such as bees' wing, sting, eye, foot, etc., each	25
0	Medley of Bee-Keepers' Photo's, (150 Photo's)	1 00
0	Magnifying Glass, Pocket	50
0	" " Double lens, brass, on 3 feet	1 00
7	Muslin, Indian head, for quilts and cushions per yard, pretty stout, but not good as duck.	10
	Parafine, for waxing barrels, per pound....	20
0	Photo. of House Apiary and Improvements..	25
2	Rabbets, Metal per foot	02

SECTION BOXES IN THE FLAT, PER 1,000.

Any dimensions not exceeding 2x5x5 10 00

The above is 50 cubic inches; for larger sizes add 10c per 1,000 for each additional cubic inch or fraction of an inch, outside measure. Extra prices for less than 500.

Just right to fit in L. frames, 2x4¼x4¼ 9 50

85	These are put up in packages (of 64 each) containing just enough for a 2 story hive, 8 to the frame..	60
	Sample by mail with fdn	5

If the grooving for holding the fdn. is omitted, 25c less per 1,000. Sections weigh from 7 to 10 lbs per 100.

10	L. frame made 2 inches broad to hold 8 sections	5
25	The same with 8 sections	13
25	The same furnished with fdn. starters all ready for the bees	20

Adding tin separators to either of the above will increase the price 5c. and the postage 6c.

4	Section boxes, fancy, hearts, stars, crosses, etc. each	5
3	Sheets of duck to keep the bees from soiling or eating the cushions	10
	Salicylic acid, for foul brood, per oz	50
0	Scissors, for clipping queen's wings	40
18	Seed, Alsike Clover, *raised near us*, per lb...	25
18	" Summer Rape. Sow in June and July.	15
0	" Chinese Mustard, per oz	25
18	" Mignonette per lb. (20c. per oz.)	1 50
18	" Mellilot, or Sweet Clover, per lb	1 00
18	Silver Hull Buckwheat (peck by express, 75c)	10
10	Smoker, Quinby's (to Canada 15c extra)	1 50
5	" Doolittle's	25
2	Tacks, Galvanized	10
5	Tins for fastening glass in section boxes, 1000...	25
3	Thermometers	40
0	Veils, Bee, with face of Brussels net, (silk)..	75
0	The same, all of tarletan (almost as good)...	50
5	Wire Cloth, for Extractors, tinned, per foot..	15
3	" " Queen Cages	12

Above is tinned, and meshes are 5 and 18 to the inch.

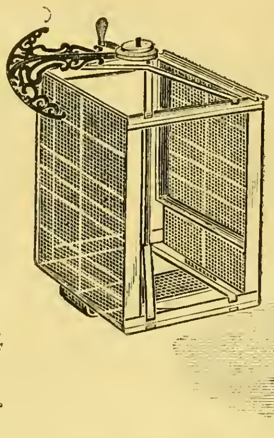
3	Painted wire cloth, 14 mesh to the inch	7

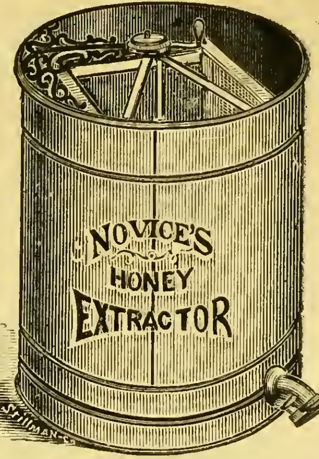
All goods delivered on board the cars at prices named.

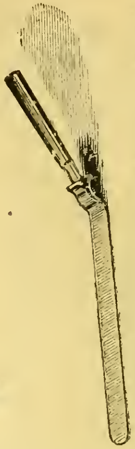
☞ We will pay $1.50 cash, for Vol. III. A. I. ROOT.

PRICES OF EXTRACTORS:

For Gallup frame, $7,50; American frame $7,75; Adair frame, $8,00; Langstroth, $8,00; Quinby, $9,00. No knife included at these prices. All the above sizes kept constantly on hand ready to ship.







Our Honey Knife, Price $1,00, post-paid, is made of fine steel, nicely finished, with a thin keen edged blade that needs no hot water or any such "fussing" to make it uncap nicely.

ADVERTISEMENTS.

Advertisements will be received at the rate of ten cents per line, Nonpareil space, each insertion, cash in advance: and we require that every Advertiser satisfies us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

THE BEE-KEEPERS' MAGAZINE, an illustrated monthly journal of 32 octavo pages, devoted exclusively to bee-culture; edited by ALBERT J. KING, containing contributions from Mrs. Ellen S. Tupper, and experienced bee-keepers in America and Europe. A large space is devoted to beginners, giving useful information just when it is most needed throughout the year. Terms, $1.50 per year. The Bee-Keepers' Text-Book in *German or English*, and the Bee-Keepers' Magazine one year $1.70. A 64 page pamphlet (price 50c) containing a beautiful life-like **Chromo** of **Honey-Plants** and **Italian Bees** in their natural colors, with prize of Mrs. Tupper, Queen rearing by M. Quinby, instruction for beginners, etc., sent *free* with the Magazine, on trial, 4 months for 50 cents. Agents wanted—cash commission and permanent employment. Address

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Is the best scientific and practical Journal of APICULTURE in the world. The most successful and experienced Apiarians in Europe, as well as America, contribute to its pages. In fact, it is the *oldest* and *largest* BEE PAPER in the English language. **$2.** Per Annum. Send a Stamp for a Sample Copy. Address THOMAS G. NEWMAN,
tf 184 Clark st., Chicago, Ill.

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THE *MOST* BEAUTIFUL.
THE *MOST* ECONOMICAL.
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Requires no oil thinner or drier,
Requires no waste of time in mixing,
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$1.00 Queens.

Names inserted in this department the first time without charge. After, 10c. *each insertion, or* $1.00 *per year.*

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, safe delivery, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If wanted by mail, send 10c. extra.

*Richard Ferris, Bellville, Essex Co., N. J.	
*C. C. Vaughan, Columbia, Tenn.	3-8
*Wm. W. Cary. Colerain, Franklin Co., Mass.	5-2
*G. W. Dean, River Styx, Medina Co., O.	5d
*J. Oatman & Co., Dundee. Ill.	1-12
*E. W. Hale, Wirt, C. H., West Va.	6-6
*J. M. C. Taylor, Lewiston, Fred. Co., Md.	1-6
*Dr. J. P. H. Brown, Augusta, Ga.	1-12
*Albert Potter, Eureka, Wis.	1-12
*Wm. J. Andrews, Columbia, Tenn.	2-2
*Aaron J. Weidner, Bigler. Adams Co., Pa.	4-9
*J. H. Nellis, Canajoharie, N. Y.	5-11
Miss A. Davis, Holt, Ingham Co., Mich.	5-4
D. A. Pike, Smithsburg. Wash. Co., Md.	5-6
*W. A. Eddy, Easton. Adams Co., Wis.	6 11
J. B. Dines, Libertyville, St. Francois Co., Mo.	6 7
*T. G. McGaw, Monmouth, Warren Co., Ills.	6 9
*E. C. Blakeslee, Medina, Ohio.	6tfd
*A. I. Root, Medina, Ohio.	

I will tell you about our Albino queen next month.

Bees for Sale.

We whose names appear below agree to sell a good colony of Italian bees with tested queen, in new one story hive, for $10,00. If in an old hive, $1,00 less. Safe arrival guaranteed.

A. I. Root, Medina, Ohio.
W. P. Irish, New Portage, Summit Co., Ohio.
T. G. McGaw, Monmouth, Warren Co., Ills.
T. B. Parker, Goldsboro, N. C.

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
M. S. West, Pontiac, Mich.	6-6
Geo. W. Simmons, Newark, Del.	1-12
Isaac L. Parker, McMinnville, Warren Co., Tenn	3-2
Thos. F. Wittman, Camden, N. J.	6-5d

GLEANINGS IN BEE CULTURE

Devoted to Bees and Honey,

And Peace on Earth and Good Will toward Men.

PUBLISHED MONTHLY, AT MEDINA, OHIO,
BY A. I. ROOT.

Vol. V July, 1877. No. 7

To Many Inquiring Friends.

PATENT HIVES—WHAT FRAME OR HIVE TO USE—SHALL WE USE AN EXTRACTOR, OR RAISE COMB HONEY?—ITALIANS—THE BEE MOTH—SPACE FOR COMBS—FOUNDATION.

While I earnestly try to maintain a broad "charity for all, and malice toward none," and while I do not wish to take upon myself the responsibility of dictating a course for others, I feel it a duty to discourage with all my might, both by precept and example, everything in the shape of patented bee hives, or patents on anything pertaining to bee-culture. On the other hand I shall try to encourage every one to do all in their power to advance the common good of all. I do not believe the world "selfish and grasping," but have unlimited confidence in the disposition of our people to desire to pay for everything they get, and to reward those who work for them disinterestedly, when they once get a clear understanding of the matter. If you have made a valuable invention or discovery, give it to the people rejoicing that you have been enabled to contribute your mite to the common good, and in seeing others happy, and sooner or later, you will surely have your reward.

I recommend the Langstroth frame for everybody, and for every purpose whatever, in preference to anything else, and I have pretty thoroughly experimented with all shapes and sizes. There may be other forms that will give just as good results, but I do not believe there are any better. For all general purpose, I advise the Simplicity hive holding ten of the above frames. The hive is made of ⅞ lumber, and is 20¼ by 16 inches outside measure. The Langstroth frames as our gauges make them, are 17⅝ by 9⅛ outside measure. As the chaff hive is the same thing with an outer shell to hold the chaff that protects the hive from the winter's frosts, as well as summer's sun, no confusion can result from using both in the same apiary.

Produce just whichever pays best in your own market, and no one can tell so well as you, yourself, can by trying both; you can perhaps produce a nice article of extracted for about 15c., as cheaply as comb honey for 20c. You can produce thin, raw, unripened honey without any trouble for 10c. or less, but it will probably pay you best to give your customers an article as good in every respect as that found in the nicest comb honey.

If your hives are all full, upper story and lower, and the honey is still uncapped, put on a third one, and neither let your bees hang out idly nor swarm, if it takes another story still. When they get to crowding out, give them room if you have to sit up all night to do it.

The comparative advantages of the black or common bees and Italians, is a matter that no longer admits of discussion, and I must consider the very few individuals who write in favor of the former as belonging to that class of unfortunates who seem to delight in being contrary. If tons of honey are to be considered a proof, the matter has long ago been amicably settled in favor of the Italians.

The bee moth need hardly be mentioned now, unless it is to advise you to drive them out with Italians, for whenever they come into a neighborhood, the moths get out without any farther trouble or bother. This one feature alone, is enough to justify introducing Italian queens in place of the blacks.

The usual space allowed for brood combs is about 1 7-16 inches, but the matter is not at all important. They can be worked as closely as 1⅜, or as far apart as 1¾. For surplus honey we would have about 2 inches space from centre to centre of the combs.

Perhaps no one thing in bee culture, ever brought forth such unbounded tokens of approval, as has the comb foundation. All controversies are at an end and nothing now remains but to devise ways and means whereby the expense of its manufacture may be cheapened.

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THE imported queen we use came from Dadant, and although she is now in her third summer, she seems almost as prolific as ever.

THE Albinos seem to be nothing more than light colored Italians; when put among the bees reared from a daughter of our imported queen, the difference is so slight as to be hardly perceptible. Perhaps they have rather more of a whitish "down" on their bodies just below the yellow bands.

IMPORTED QUEENS AT $5.

We shall receive during June and July, queens from one of the best districts in Italy, which we will sell at $5,00 each.

This price being very near cost no discount can be given on the dozen.

We will deliver at express office here in box as received, or forward by mail, as requested.

No queens raised this season or circular issued.

Registered letter or money order sent at our risk.

C. W. & A. H. K. BLOOD,
6-7 P. O. Box 234. Quincy, Mass.

Italian Imported Bees & Colonies.

PRICES GREATLY REDUCED.

Full Colony with Imported Queen................	$14 00
" " home bred Tested Queen........	10 00

Special rates for large quantities. All the Colonies sold are in *new* and well painted movable frame hives; all combs straight.

1 Imported Queen after June 1st..................	7 00
2 " Queens " " each..............	6 50
6 " " " " "	6 00
12 " " " " "	5 50
Single Queens to Old Customers..................	6 00

Safe Arrival Guaranteed on Queens and Colonies.

References furnished in nearly every State in the Union and Canada, or among the most noted Apiarians of Europe. Send for Circular to

CH. DADANT & CO.,
6tf Hamilton, Hancock Co., Ill.

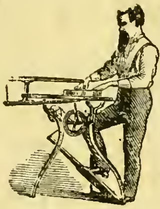
WM. W. Cary, Colerain, Franklin Co., Mass. Sixteen years experience in Propagating Queens direct from imported mothers, from the best district in Italy. Persons purchasing Queens or Swarms from me will get what they bargain for. Send for circular. 3 in q.

Round Honey Jars.

One pound, per gross..............................	$4 75
Two " " "	6 75
Corks for above, per gross	65

Larger sizes furnished if wished.
7-9d Address F. T. NUNN, Peru, Huron Co., Ohio.

COMB FOUNDATION
50c. PER POUND.
Warranted Pure Beeswax.
C. O. PERRINE, CHICAGO.
Send for Circular. 6-8d



BARNES' FOOT POWER MACHINERY.

13 different machines with which Builders, Cabinet Makers, Wagon Makers, and Jobbers in miscellaneous work can compete as to QUALITY and PRICE with steam power manufacturing; also Amateurs' supplies, saw blades, fancy woods and designs. Say where you read this and send for catalogue and prices.

W. F. & JOHN BARNES,
6tfd Rockford, Winnebago Co., Ill.

HONEY BOXES of all sizes or kinds furnished at reasonable rates on short notice, also the Langstroth frames. Give the size of box or section wanted and I will give prices. Address, R. R. MURPHY,
6-8 Garden Plains, Whiteside Co., Ills.

QUEENS. Tested and untested, bred from my choice lot of imported mothers received from Italy last fall. Safe arrival by mail guaranteed at low prices. Satisfaction guaranteed Circular free.
7 J. M. C. TAYLOR,
Lewistown, Fred'k Co., Md.

ITALIAN QUEENS FOR 1877.

Queens bred from Imported or home bred stock. Safe arrival guaranteed. Will send you every time just what you order.

Unwarranted	queen	....	$1 00
"	"	per doz....................	11 50
Warranted	"	....	1 50
"	"	per half doz..............	8 00
"	"	per doz....................	14 00
Tested	"	before July 1st..........	3 50
"	"	after " "...........	2 50
"	"	" " " 4 for.....	9 00
"	"	" " " per doz..	20 00
2 frame nucleus (frame 11x12) and tested queen after July 1st		....	5 00
5 same		....	20 00
Same and unwarranted queen		....	4 00
5 " "		....	17 00

2tf J. OATMAN & CO., Dundee, Ills.

MUTH'S ADVERTISEMENT.

HONEY JARS!

One pound (square) jars, per gross...............	$6 00
Two " " " "	8 00
One " " " flint glass per gross....	8 50
Two " " " " " "	10 50
Corks for 1 and 2 pound jars..........................	75
Tin foil caps, per gross................................	1 00
Labels " "	75
A thousand labels address printed to order......	5 00
One qt. fruit jars, Mason's patent, per gross.....	17 00
Labels for same, " "	65
A thousand labels address printed to order......	4 00
Uncapping knives, as good as any, each.........	50
" " per dozen..................	4 50
Alsike clover seed, per bushel......................	13 50
" " " " peck....................	3 50
" " " " pound..................	40
Catnip seed, per pound................................	6 50
" " " ounce................................	50

Langstroth Bee Hives,
Straw mats, bee vails etc., at reasonable rates.
For further particulars, address
CHAS. F. MUTH, Cincinnati, O.

TABLE OF PREMIUMS.

The first column is for those only, who send 5 or more names.

Any of them sent post-paid on rec'pt of price.

Names of Premium Articles.	*Prices of Premiums*	*Number of Subscribers required at* 75c.	*or at* 1.00
1—*Lithograph of Apiary, Implements, etc.*	25	5	2
2—*Photograph of House Apiary*	25	5	2
3—*"That Present," Novice and Blue Eyes*	25	5	2
5—*Emerson's Binder for* GLEANINGS, *will hold 4 Volumes*	50	6	3
6— " " *better quality*	60		3
7—*Pocket Magnifying Glass*	60	7	3
8—*First or second Volume of* GLEANINGS	75		4
9—*Best quality Emerson's Binder for* GLEANINGS	75	8	4
10—*Double Lens Magnifier, on 3 brass feet*	1,00	9	4
11—*Photo Medley, Bee-Keepers of America*	1,00	9	4
12—*First and second Vol. of* GLEANINGS	1,50	10	6
13—*Centennial Cabinet Clock; a pretty and accurate time piece, that will run even when carried about, for only*	$2 00	15	7
14—*A real Compound Microscope, beautifully finished, and packed with Implements in a Mahogany Box*	3 15		8

One Hundred Colonies

PURE ITALIAN BEES FOR SALE CHEAP. Send for Circular and Price List.
C. C. VAUGHAN,
3-8 in q. Columbia, Tenn.

Improved Quinby Smoker.

Quinby's "Bee-Keeping Explained." Box material for as practical a box as can be made. Glass cheaper than ever before. Queens. Hives. Colonies, Extractors, Hive Clasps, Bee Veils, etc.

Send for Illustrated descriptive Circular.
L. C. ROOT,
Mohawk, Herkimer, Co., N. Y.
4tf

100 COLONIES ITALIAN BEES FOR SALE

At $7,50 Per Colony.

4tfd M. PARSE, Pine Bluff, Ark.

I own latest and best machinery and promptly supply

Pure Beeswax Comb Foundation.

at the following low prices: Made from yellow wax, 70c per lb.; white wax, 90c per lb. Sheets 12 inches wide or less and as long as wanted. Five cells to the inch and 4 to 8 square feet to the pound. Packed in light wooden boxes—paper between the sheets. Sheets cut to any desired size. Ten per cent discount on 50 lbs. or more. Wax delivered here, will be worked up for 35c per lb. or for half the wax. Highest cash price paid for pure wax delivered here. Freight or Express charges to be paid by the purchaser. By mail. add 25c per lb. to above prices. Order early before the summer rush. Sample by mail, 10c.

Enlarged circular, giving prices of Queens, Bees, Hives, Boxes, Extractors, etc., etc., sent free to all. It tells how to introduce queens, how to use foundations, and many useful hints.

ITALIAN QUEENS FOR 1877.

I warrant safe arrivals of all my queens by mail.

Tested queens June 15th to July 15th each	$3 00
" " after July 15th, each	2 50
" " " " six	13 00
" " " " per dozen	22 00
Warranted queens, each	1 50
" " six	8 00
" " per dozen	14 00
Dollar queens, each	1 00
" " per dozen	11 50

tf J. H. NELLIS, Canajoharie, N. Y.

ITALIAN BEES.

Imported and home bred queens; full colonies and nucleus colonies; bee-keeper's supplies of all kinds, Queens bred early in the season. Send for catalogue.
9tf DR. J. P. H. BROWN,
Augusta, Ga.

REMOVAL.

The Brooks Bro's. have removed their Apiary *from* Columbus to Elizabethtown, Ind., and would be pleased to send you their new circular. Send for it before purchasing your queens or bees.

Address, J. M. BROOKS & BRO.,
4-9 Elizabethtown, Ind.

BEFORE PURCHASING

Supplies for your Apiary, send a Postal Card for our Price List of Hives, Frames, Sectional and other Boxes of any desired pattern, Comb Foundations, Metal Corners and Tested and Untested Queens from Imported mother.
J. C. & H. P. SAYLES,
3-8d Hartford; Wis.

Comb Foundations!

PURE BEES WAX.

Cut to any size desired.

PACKED IN NEAT WOODEN BOXES—PAPER BETWEEN EVERY TWO SHEETS. AT $1.00 PER POUND FOR THE WHITE, OR 75 CENTS PER POUND FOR THE YELLOW.

IF WANTED BY MAIL. ADD 25 CENTS PER POUND FOR PACKING AND POSTAGE.

If taken in our regular packing boxes, sheets 12x18 inches, 10 per cent. off from above prices on 10 pounds or over.

Wax will be worked up to order, and cut into sheets of any size desired, for 40 cents per pound.

We will pay 35 cents per pound cash for bright yellow wax, or sell it for 40.

One pound of wax makes from 4 to 8 square feet of surface. The thinnest will be used by the bees, but is not made into comb as quickly as the heavier, which has a greater depth of cell.

Sheets just right for L. frames, both white and yellow, kept constantly in stock ready for shipment; also square sheets for section boxes. About 6 of the former or 30 of the latter weigh 1 pound.

At above prices we can pay no freight or express charges either way.

The only wholesale rates we can give is 10 per cent. off from above rates on orders for 50 pounds or over, or 20 per cent. on 100 pounds or over. For 500 lbs. or over, 50 cents per pound.

Comb Foundation Machines.

Machines for making sheets 1 foot wide -	$100 00
Expressly for L. frame, 9 inches wide -	50 00
For making 5 inches for section boxes -	30 00
Double Boiler for above machines, -	$3.00, 3.50 and 4.00
Dipping plates per pair. - -	$1.00, 1.50 and 2.00

The above prices are for cells 4½ or 5 to the inch. If drone size is wanted, add $10, $5 and $3 respectively to above prices. The machines are all ready for use, and full instructions will be sent to each purchaser.

Address, A. I. ROOT, Medina, Ohio.

We have sold machines for making fdn. to C. O. Perrine, Chicago, Ills.; to D. A. Jones, Benton. Ont., Canada to J. M. Madory, Los Angelos, Cal.; J. H. Nellis, Canajoharie, N. Y.; to Lewis Walker, Ventura, Ventura Co., Cal.; to G. M. Dale, Border Plains, Iowa.: to Rev. J. Van Eaton, York, Livingston Co., N. Y.; to G. W. Gates, Bartlett, Tenn.; to Wm. S. Hersperger, Frederick City, Md.; to Wm. Raitt, Liff by Dundee, Scotland; to W. R. Bishop, Sherwood, Ill.; to James B. Hawkes, Arlington Heights, Ill.; to W. S. Boyd, Bethany, Ohio, and to A. W. Foreman, M. D., White Hall. Ills.

The four former were 12 inch, and the rest, 5 inch machines. We presume all will be ready to furnish fdn. at our prices.

CLUBBING LIST.

We will send GLEANINGS—

With The American Bee Journal ($2.00)	$2.50
" The Bee Keeper's Magazine (1.50)	2.00
" Both The above Bee Journals of America	4,00
" British Bee Journal ($2,00)	2,50
" All Three	5,50
" American Agriculturist ($1.00)	$2.25
" Prairie Farmer ($2.15)	2.90
" Rural New Yorker ($2.50)	3,25
" Scientific American ($3.20)	3.90
" Fruit Recorder and Cottage Gardener ($1.00)	1,75

[*Above rates include all Postage.*]

E. W. HALE'S

Price List of Bees, Queens, Etc., for 1877.

1 Full colony .. .. with tested queen	$13 00
1 three frame nucleus “ “ “	5 50
1 “ “ “ “ dollar “	4 00
1 tested queen	2 50
1 untested “	1 00

A discount of 10 per cent will be made on all orders of more than $10,00 each. All my queens are raised from *Imported Mothers*, I only guaranteeing the safe arrival *of all tested queens* within 1000 miles. The money must accompany each order, and all orders will be filled strictly in rotation. My location enables me to furnish queens much earlier than parties farther north. Address,

2-10d E. W. HALE, Wirt C. H., W. Va.

1877, Italian Queens. 1877,

Italian queens, warranted as good in every respect as tested queens, $1,00 each. Safe arrival guaranteed by mail.

H. ALLEY,
7 Wenham, Essex Co., Mass.

BOOKS for BEE-KEEPERS and OTHERS.

Any of these books will be forwarded by mail, *post-paid*, on receipt of price.

In buying books, as every thing else, we are liable to disappointment if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them *for sale* it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage, shall not be disappointed, and therefore, I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with a *, those I *especially* approve * *; those that are not up to times †; books that contain but little matter for the price, large type and much space between the lines ‡; foreign §.

BOOKS ESPECIALLY FOR BEE-KEEPRES.

Langstroth on the Hive and Honey Bee**†	$2 00
Quinby's Mysteries of Bee-keeping**†	1 50
Bee-keeper's Text Book*†....muslin	75
“ “ “ “ *†....paper	40
A Manual of Bee-keeping, by John Hunter*§	1 25
Manual of the Apiary, by Prof. A. J. Cook**	30
How I Made $350 a Year with my Bees*†§	25
How to make Candy**	50
Art of Saw-filing*‡	75
Lumberman's Hand Book***	15
Fuller's Grape Culturist**	1 50

MISCELLANEOUS HAND BOOKS.

Ten Acres Enough**	1 25
Five Acres too Much**	1 50
Tim Bunker Papers*	1 50
An Egg Farm, Stoddard**	50
Window Gardening	1 50
Purdy's Small Fruit Instructor*	25
How to Use the Microscope	75
Play and Profit in my Garden*	1 50
“Our Digestion,” by Dio Lewis**	2 00
Onion Culture*	20
Potatoe Pests, by Prof. Riley **	50
Practical Floriculture*	1 50
Gardening for Profit**	1 50
Strawberry Culturist, Fuller*	20
Small Fruit Culturist, Fuller*	50
Forest Tree Culturist, Fuller*	1 50
How to Build Hot-Houses, Leuchar§	1 50
Draining for Profit and Health, Warring	1 50
What I know of Farming, Horace Greely	1 50
Injurious Insects, Prof. A. J. Cook***	10
Scroll sawing, Sorrento and Inlaid work *‡	1 50
Moody's Best Thoughts and Discourses ***	75
Moody and Sankey's Gospel Hymns, words only....	06
“ “ “ words and music, paper	30
“ “ “ “ “ boards	35
Murphy Temperance Pledges, per 100 cards	40
One doz. above, as samples	07

BOOKS THAT I HAVE NEVER EXAMINED, BUT THAT ARE IN GOOD REPUTE.

Broom Corn and Brooms..........paper 50....cloth	75
Cider Maker's Manual, Buist	1 50
American Pomology, Warder	3 00
Canary Birds....................paper 50....cloth	75
Farmer's Barn Book	1 50
Pear Culture, Fields	1 25
American Bird Fancier	30
American Weeds and Useful Plants	1 75
Bement's Rabbit Fancier	30
Bommer's Method of Making Manures	25
Burn's Architectural Drawing Book	1 00
Burr's Vegetables of America	3 00
Cooked and Cooking Food for Domestic Animals...	20
Copley's Plain and Ornamental Alphabets	3 00
Dana's Muck Manual	1 25
Darwin's Variations of Animals and Plants, 2 vols..	5 00
Gun, Rod, and Saddle	1 00
Harris on the Pig	1 50
How to Get a Farm and Where to Find One	1 25
How to Use the Pistol	50
Jennings' Horse Training Made Easy	1 25
Johnson's How Crops Feed	2 00
Johnson's How Crops Grow	2 00
Klipparts Wheat Plant	1 75
Leavitt's Facts About Peat	1 75
Mrs. Cornelius's Young Housekeeper's Friend	1 50
Plummer's Carpenters and Builder's Guide	1 00
Skillful Housewife....'	75
American Fruit Culturist, Thomas	3 75
Cranberry Culture, White	1 25
A Simple Flower Garden, Barnard	38
Farming by Inches, Barnard	38
Gardening for Money “	1 50
My Ten Rod Farm “	38
Strawberry Garden “	38
Carpentry Made Easy, Bell	5 00
Fur, Fin, and Feather	50
Fish Culture, Garlick	1 50
How Plants Grow, Gray	1 25
Manual of Botany and Lessons, Gray	3 00
School and Field Book of Botany, Gray	2 50
New Cook Book, Mrs. Hale	2 00
My Farm of Edgewood	1 25
American Angler, Norris	5 50
Rhododendrons, Rand	1 50
Landscape Gardening, Downing	6 50
Guenon on Milch Cows	75
Sorgho, or the Northern Sugar Plant, Hedges	1 50
My Vineyard at Lakeview	1 25
Shooting on the Wing	75
American Wheat Culturist, Todd	1 50
Cotton Planters' Manual, Turner	1 50
Practical Butter Book, Willard	1 00
Yonatt on the Hog	1 00
Youatt on Sheep	1 00
Garden Vegetables, Burr	2 50
Fruits and Fruit Trees of America, Downing	5 00
Complete Works on Chemistry, Leibig	2 00
Gardening for Ladies, Loudon	2 00
Riley on the Mule	1 50
Flax Culture (seven prize essays by practical growers)	30
Peach Culture, Fulton's	1 50
How To Paint, Gardner	1 00
Gregory On Cabbages....paper	30
Gregory On Squashes....paper	30
Gregory On Onions....paper	30
Insects Injurious To Vegetation....Plain, $4 00.. With colored plates, $6 50	
Gardening For Pleasure, Henderson	1 50
Hop Culture	30
Jenny June's Cook Book	1 50
Cotton Culture, Lyman	1 50
Manual Of Flax Culture and Manufacture	25
Parsons On The Rose	1 50
Potatoe Culture, (prize essay)....paper	25
Money In The Garden, Quinn	1 50
Pear Culture For Profit, Quinn	1 00
Manual On The Culture Of Small Fruits, E. P. Roe	50
Farm Implements And Machinery, Thomas	1 50
Earth Closets, How To Make Them, Warring	1 00
Gardening For The South	2 00
Cranberry Culture	1 25
Practical Poultry Keeper, Wright	2 00
Peat And Its Uses	1 25
Hedges And Evergreens, Warder	1 50
Book On Birds, Holden	25
Sorghum And Its Products	1 50
Taxidermist's Manual	1 00
Practical Trout Culture	1 50
Farming For Boys	1 50
Silk Grower's Guide	1 25
Painter, Guilder and Varnisher	1 50
Mushroom Culture	3 00
The Farmer's Receipt Book	50
The Model Potatoe	50
Apple Culturist, Todd	1 50
Youman's Household Science	1 75

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

Vol. V. JULY 1, 1877. No. 7

A. I. ROOT,
Publisher and Proprietor,
Medina, O.

Published Monthly.
Established in 1873.

TERMS: $1.00 Per Annum in Advance; 3 *Copies for* **$2.50; 5** *for* **$3.75; 10** *or more, 60c. each. Single Number* **10c.**

FOOT POWER SAWS.

I THANK you for having discovered, for the bee-keeper, the foot-power saw of Mr. Barnes. It is a true gem. About 8 years ago I made an expense of about $100, in building a horse-power saw. But the attempt resulted in a dead loss. When you spoke for the first time of the foot-power saw, I thought that you had a fit of short lived enthusiasm, for I could not imagine that it would be possible to run a saw with the foot, without exhausting one's strength in a few hours. When I saw your enthusiasm lasting, I resolved to try for myself, and here are the results:

The first day we were astonished to see the ingenuity with which this machine is combined, and the good work that it is doing, but we found the first work very hard. The second day we tried to increase the speed, and it seemed that the machine was just the thing. The third day ruined all our hopes. My son, who runs the machine, was tired by his work of the first day; the rip saw seemed harder to run than before, and we resolved to write to you for a book on saw filing. My son was then able to file and set the saw in good order, and now we are amazed at the quantity of work, and the ease with which it is done.

We had 1,700 frames to make and about 10.000 feet of lath to rip; my son has worked only on rainy days, and nearly all the work is done, although we have had the saw but three weeks; the work is so smooth and true that I would send you a sample but for the thought that you have the same machine.

You cannot insist too strongly on the following in regard to the use of the machine: First—follow the directions given to move the pedal. Second—keep the saws in good order, according to the directions given in the "Art of Saw Filing." Third—keep the machine oiled. Fourth—do not abandon the task after a short trial, but persevere till you can work easily.

The rip saw is harder to work. If the wood is not dry, or is of some hard kind, you will exhaust your strength unless you work slowly; but if you have chosen very dry lumber, and soft, to make the frames, you will succeed.

The scroll saw is more easily worked. It is a plaything. CH. DADANT, Hamilton, Ill., May 12, 1877.

* * *

OUR ENGLISH COUSINS, AND WHAT THEY THINK OF OUR SECTION BOXES.

WE extract the following from the London Journal of Horticulture for May. Will friend Hunter accept our thanks for the very pleasant way in which he compliments Yankee ingenuity. We do not reproduce the cuts, as they have appeared on our pages already:

SECTIONAL SUPERS.

The importance of this subject to the bee-keeper will doubtless excuse my returning to it, for the experience of the various honey shows of the last three years has proved that the days of large weighty supers are doomed, the first object of the bee master who hopes to make profit on his hives being to raise a product that will command the best market price, which the large bell-glass or wooden box of honey does not. Neither does the strained honey satisfy the fastidious taste of the wealthy epicure. American bee-farmers are years ahead of us in the discovery of what is needed for the desirable end. Their super patterns are legion, but all tend to the same object—to produce clean, well-filled combs of attractive appearance, and small enough for the retailer to sell without cutting.

Mr. Root of Medina, Ohio, whose apiary was figured in this Journal a few weeks back, has favored me with samples of his latest sectional supers, which in simplicity and inexpensiveness will be hard to beat. The figure illustrates the section box, and the manner in which they are placed in the frames with which the hive is filled. I should, however, say that both hive and super are exactly alike; the former, filled with ordinary frames, being used as a breeding box; the latter, filled with wider frames and sectional boxes, as a super. When supplied to the bees each section is fitted with a piece of clean comb, natural or artificial, without which, of course, no dependence could be placed that the bees would build in order. On examination it will be seen that all four sides are neatly mortised, and they are merely held together by the mortises; but being all cut by circular saw to gauge, such is the accuracy that the whole is quite firm and every piece interchangeable. The top is grooved to fix the guide comb, and the section boxes are sold at the marvelously low price of $10 (2£) per thousand! Less than ½*d.* each. This is the price quoted for boxes 5 by 6 by 2, or anything less. Of course, the natural exclamation is, "Ah! that is in America; but what can we get them here for?" Well, I supplied patterns to a friend, an ardent bee-keeper, anxious to help our good cause, and who had all the requisite machinery—circular saw, steam power, and timber at first price, and he made some as a trial, and now declares they cannot be made and sold in England under 2*d.* each. He thinks the Yankees must get their wood for nothing and labor for less, to sell at their price! Now at 2*d.* each they are not too dear to use; but we can yet do better. It is no uncommon thing to find we can import articles of merchandise better and cheaper than we can make them, and in like manner we can import these section boxes so that they shall certainly cost under 1*d.*, and I think not more than ¾*d.* each. I have been in the habit year by year of getting all manner of foreign apiarian novelties for my friends at cost price, and although I have often unfortunately found myself in the position of the old man and his ass, by next season I certainly will import a case of supers to serve as patterns; and in the meantime, as circular saws are now so common with amateur workmen, I extract, somewhat condensed, Mr. Root's instructions in "GLEANINGS IN BEE CULTURE" how to make the sections.

* * *

WHAT A WOMAN'S ENERGY WILL DO.

A SHORT CHAPTER FROM EVERY DAY LIFE.

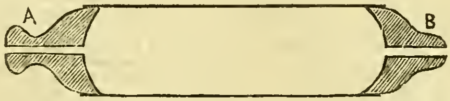
MR. ROOT:—I have a favor to ask of you. Will you send me an extractor and give me sixty days in which to pay it? We have 24 hives of Italians; they have a good supply of honey, but I hate to sell it in the comb. I think I can sell enough honey in two days, to pay for an extractor. My husband went to drive logs down the river on purpose to get the money for an extractor, but it is such a poor year for driving that they will not pay the men until the logs are down. I will tell you our circumstances and you will see how it will help us. We "homesteaded" an "eighty," ten years ago in the woods; we have had hard times, sickness and death since. After a village was started I would take a basket of grated horse radish in bottles, or garden stuff, five miles on foot to sell to help us along, that my husband could stay at home and clear land. Three years ago we traded a cow for a horse and I took it on horseback. One year I sold $133.00 worth. I sent $25,00 of it to M. Quinby and got a hive of bees. We have had them about two years. We have no horse now. I took 21 lbs. of honey five miles on Saturday. Such work is killing me but we have great hopes that our bees will help us to a horse and wagon this summer.

Mrs. S. A. P.

We would like those who get so discouraged after a few failures, and begin to think of "Blasted Hopes," to take a lesson from this woman. In spite of her household duties, her many trials, disappointments and failures, still she is resolute and undaunted, and when no other way seemed open for getting the things she needed, she started off on foot with her honey, even while feeling that her strength would not long enable her to do such work, and after it all, seems cheerful and ready to go ahead with the duties that lie before her. With such women for mothers, is it any wonder that America's son's are outstripping the rest of the world? Instead of sitting down idly and complaining at a few trifling discouragements, shall we not rouse up, and take courage after such an example of patient energy from one of the opposite sex?

HOW TO MAKE AND USE THE DOOLITTLE SMOKER.

PERHAPS our friend whose name this smoker bears, deserves more credit for the plan by which it is to be used, than for any novelty in its construction, for the idea is very old. It is simply a tube made of very thin light tin, with a plug of hard wood in each end. A smooth clean hole about as large as a lead pencil, is bored through each, and one of them has a knob turned on one end to be held in the teeth. The tin tube should be about 6 inches long, and perhaps 1½ in diameter. We have seen them so small that they could be carried in the vest pocket, and again, much larger than the one we have advised. Friend Dean uses one nearly a foot long, and perhaps 2½ inches in diameter. The diagram will make it all plain.



A, is the plug to be held in the teeth, while B, is put in permanently. A, should fit so closely that it will be in no danger of falling out, or the coals and fuel might make much trouble by falling into the hives and on the bees; but it should be so loose as to be easily taken out to replenish the fuel when necessary, or to have it keep burning when laid down. This smoker like all others, will go out most inopportunely, unless it is carefully handled, and our first attempts at getting it lighted were such that we almost got disgusted with it even after friend D. had shown us how, repeatedly. The secret of it seems to be that you must not make up your mind you know all about it at first glance, but must conclude you don't know, and listen and obey orders to the *very letter*.

Go into the woods and get some very dry rotten wood, of such a sort that it can be easily crumbled up in the fingers into pieces about the size of grains of corn, or a little larger. Put in some of the large pieces first, that the hole in the lower plug may not be clogged, and then fill up the tin case with smaller bits. Now lay a coal of fire on top of the fuel, and do not put in the plug until the rotten wood is smoking briskly. With your breath give it a puff, and if the smoke pours out of the plug at the lower end, you are ready to put in the mouth piece and go to work. When your bees are quiet enough, take out the mouth piece and lay it down; but if you lay it down without taking out the mouth piece, it will go out very soon. If you choose, you can hold it between your teeth all the time, but if you do not wish it to go out, you must not omit giving it a puff every little while. It may thus be kept going for more than an hour, with once filling. In trying to do this, you will very likely get the smoke into your lungs and get strangled, but you are to bear it all patiently, and remember that "every rose has its thorn." If you will put the end of your tongue over the hole in the mouth piece, when you are not blowing, you will be in no danger of drawing smoke into your lungs.

The advantage this smoker has over the bellows smokers, is that it can be held in the teeth, while you work with both hands. Some people—I can hardly think they deserve being called apiarists—imagine they must have a veil and smoker too, both at the same time, in which case it is well to have a hole through the veil for the mouth piece of the smokers. But very little blowing is needed when these smokers are in trim, and if a little cloud of smoke is kept curling up gracefully—not tobacco smoke under *any* consideration—you certainly ought to be happy without being encumbered with anything in the shape of a *veil*.

COMB FOUNDATION, THE ONLY COMPLAINT OF THE SEASON,

AND THE WAY IT HAS TURNED OUT.

AFTER our note on page 161 of last month, we received a top bar from friend B., with a strip of fdn. to all appearance neatly fastened in a saw cut in the top bar. We wondered at the time, how he did it so neatly, but as it seemed all secure when pulled on, we hung it in the hive. Three hours later, we opened the hive expecting of course to find comb nicely started; but sure enough, we had only a clean stick. The fdn. had all vanished just as friend B. had said, and it was at the bottom of the hive partly eaten up by the bees. We sat down and pondered, put the fdn. back in its place, and found by gently pulling, it would slowly slip out of the groove; after it had fallen to the bottom of the hive the bees disliking to waste so much wax, picked it off by little bits, and carried it where wanted. This was the solution of the whole mystery. Mr. B. had borrowed his idea from our section boxes, but had forgotten the part about opening the groove, and then closing it on the fdn. Doubtless many have had trouble in this very matter, in not fastening the fdn. very securely in the frames. After pasting the wax down as we advised last month, we found it to work all right. You can imagine how glad we were to get the following:

I wrote you a card some time since asking if fdn. was a humbug. I am prepared to answer my own question. So far as later experiments go it is no humbug. Not being able (as I thought) to get enough fdn. for full sheets in every hive I merely intended using it as starters for straight comb i. e. as comb guides. The bees in every instance ate them out and built on the edges of top bars, fastening one comb to two frames causing me much trouble and loss. On Saturday June 2d I put five full sheets in different hives; this (Monday) morning I find in their stead full combs with honey in them. I cut them rather large and they stretched and bulged some, yet I have seen natural combs that were worse. I find the fdn. is inclined to be warped out of a true plane when put in frames. Can you give me a remedy? I also find the fdn. used as comb guides ⅝ wide is used when put between finished combs but not unless.

I mail you some poplar honey. It was taken from combs that broke down in straightening after the unsuccessful comb guides of fdn. and was *not* capped over. To my taste poplar is the richest honey made here. Good strong stocks are bringing it in now at the rate of 10 lbs. per day.

Why the bees refused to work out the strips I can not see, as I have not yet seen a single instance where they failed to work whole or half sheets. O. BRUMFIELD.

Brumfield Station, Ky., June 4th, '77.

POPLAR HONEY.

The sample sent us, is certainly delicious and very rich, but the color is so dark, that it perhaps might not command a very high price in the market. We have heard much said about poplar honey by our Southern friends, but have never before seen or tasted any. Will some one send us a leaf and flowers of the tree, or seeds? It is evidently a variety of poplar we do not have here. The honey though unsealed as stated, was so thick it would hardly run in a hot day.

INTRODUCING QUEENS.

HOW OUR GERMAN COUSINS DO IT.

MR. H. C. Hersperger, Keene, Ky., asks in the May No. of GLEANINGS: "Can not some plan be devised by which they (the queens) can be introduced safely in every case, without worrying two or three days over a queen and then having her killed by angry bees?"

Yes sir, I know such a plan, and it is the best one I ever tried, because it never failed. If you will follow me, and the hive you have in use will permit, you can, not only introduce a valuable queen in the safest, but also in the most profitable way. Safe is my plan in every case; it is profitable if you have simply a queenless colony, wish to give another queen to a colony, or have a colony with fertile workers.

Will I introduce a queen to a colony, I insert a division board in the hive in which I wish to introduce her and make a room for three or four frames. The division board must exactly fit the hive so that no bee can get out of one room into the other, otherwise the the whole experiment will be a failure. In this narrow room, which has its own fly hole, I put a comb containing honey, and two or three combs with just hatching and all adhering bees from the colony which I will unqueen or to which I will give a new queen, or should this stock be feeble, from one or two other strong stocks. Care must be taken that no queen is among the adhering bees. On one of these combs with hatching bees I confine the queen under a queen cage. These queen cages are made of tin just as high as a good worker comb is thick, with an opening for releasing the queen. There are also small openings for feeding the confined queen. I close the hole with a ball of paper saturated with honey. I then put under the new queen and press the cage into the comb near the brood till it touches the partition wall. Before the bees will gnaw out the new queen, the old bees will return to their parent stock and the young ones will undoubtedly accept the new queen. From this time I have two fertile queens in one hive, if the colony was not queenless. In that case I hunt out after some days or weeks, just as I have leisure, the old queen in the larger room of the hive, open the passages from one room into the other, and the two colonies unite peaceably without fighting each other or the new queen.

If the colony is queenless and only to be requeened, then I open after some days, the passages, waiting again some time before taking out the division board and putting in its place another comb. All is then right. In the first case I have now a strong colony without any interruption of breeding and in all other cases I have in this way strengthened the requeened colony, which is always necessary in case of stocks which have fertile workers or have been some time queenless. C. T. H. GRAVENHORST.

Brunswick, Germany, May 19th, 1877.

Thank you friend G., for taking so much pains to make the matter plain to our friends. We have practiced nearly the same plan, and have no doubt but that it will work nicely. The objection to it is, the amount of labor required to fix the division boards, get the hatching brood, &c., but the advantage of having a laying queen in the hive before the old one is taken away, is perhaps enough to pay for all trouble. After we have got the extra apartment made, why not raise our queens and have them fertilized right there? The plan has been used quite extensively by some of our people, but if we mistake not, queens are sometimes killed when the division board is removed. Will those who have had experience in the matter let us know about it?

DOLLAR QUEENS AND NUCLEUS HIVES.

WE shall have to ask our friends who order dollar queens to turn to the advertisement and read over the conditions under which they are to be furnished. You *must* do this, for we can not waste time and postals in answering what is kept constantly before your eyes in plain print. The profit is so small on these queens that we can hardly afford to answer questions in regard to them, much less, promise to select choice ones for the money. All orders will be filled in strict rotation, and we can not even tell you when you may expect them. You have only two alternatives; await your proper turn, or order your money sent back. The latter request will always be complied with immediately. If you think this is rather hard on a world of inquisitive people, perhaps you had better go into the dollar queen business yourself. All orders for bees and nuclei, we shall fill from our own apiary, but orders for queens only, will be, many of them, filled by parties all over the U. S.; generally those nearest you. As we are now importing queens, we expect soon to have our entire apiary queened with imported queens; by this means we shall have every queen worth at least a dollar, even those reared by natural swarming. We are offering swarms and nuclei, at very low rates to get rid of our old combs, that we may replace them with combs built on the fdn. On account of the many losses in introducing queens, we strongly urge beginners to purchase the two frame nuclei. We put them up very light and strong, that the express charges may be but little, and they are sent fully stocked with bees and a dollar queen, for only $4.00. If you want to see how nice a nucleus hive we can get up, it may pay you to send us 50c for a sample neatly painted, and all rigged ready for queen rearing.

THE COMING HONEY PLANT.

SOMETHING MORE ABOUT IT.

SIR:—Your card of the 13th rec'd. I would have answered sooner but was waiting to get the botanical name of the plant, as I took a root, together with the young shoots and old seed stalk to Prof. Rodgers of Monmouth; but he has failed to make it out yet. I herewith send you the last seed I have on hand, and I am now satisfied that it is useless to sow it before fall; for it will not germinate without lying in the ground over winter. The seed I saved was in good condition. I sowed early in spring and none has appeared as yet, while, where it fell from the stalk last fall it is up thick. I discover that it is a *perennial* and requires two years to bloom. I have taken up some roots and planted where I can cultivate. The flower stalks are two feet high on them now. I will report more fully in the fall. I have rec'd a great many letters and have so far sent a few seed to all. I would ask privilege of saying through your paper (for it seems to go every where) that it is useless to ask for a pound of seed, as I do not believe there could be one pound of seed gathered in Warren Co. It is not found in any quantity except where I sowed it a few years ago, and the seed is so small that one pound would produce plants enough to plant a section (or 640 acres) of land. The seed ripens as it blooms so that there is no amount of ripe seed at one time. I will cheerfully answer any questions in regard to it or other things through GLEANINGS, but please excuse me from individual correspondence for the next two months, for work commences in my apiary in earnest.

I would say further in regard to the plant, that it is not a noxious weed and will not grow where cattle can get it; its favorite place is along hedge fences, where the hedge has been trimmed and left lying, under brush heaps, in fence corners, &c. As soon as I get the name I will send it you. JAS. A. SIMPSON.

Alexis, Warren Co., Ills., May 23d, 1877.

The "new honey plant" spoken of in May No., page 136, by Jas. A. Simpson, Alexis, Ills., is a very *old* one in this vicinity. It grows wild here, being found in abundance along fence rows, open wood pastures, along rail road tracks, &c. In fact it is a very common weed but never a troublesome one. It has the habit of never growing where it will be in the way. It is a perennial and would be of the easiest culture. Its roots are small and fibrous and so very numerous that the plant is always fresh and green in the driest weather when most other green things are wilted. Friend Simpson has not overstated its honey bearing properties. Bees will work on it to the exclusion of everything else I ever saw growing in its vicinity. Its name is *Scrofularia Marylandicæ;* commonly called carpenter's square, I suppose because of the shape of the stalk. A. W. FOREMAN, M. D.

White Hall, Ills., May 20th, 1877.

LAWN HIVES, AND COVERS FOR HIVES; FANCY SECTIONS, WINTERING, &c.

I HAVE built a Lawn hive for trial, it suits me first rate so far. I put a swarm in it in January. I left the entrance the full width of hive, think it will be better in warm weather and better to clean out. I think I beat your roof. The roof is round except a 4 inch strip in center. It looks like a trunk. The rounding pieces are ½ inch basswood; just lay them on the hot stove and keep the upper side wet—5 minutes will bring them round enough. Nail them on right away with finishing nails. When well painted, I think they will never check, at least they never do in carriage work. Just try one. I think it cheaper than yours with so much tin and work, and it looks "foxy."

I have been making some sections inside Langstroth frame to see how they look. Think 6 looks better than 8. I have made some with 3 sections which I think would work. Take a top bar and fasten 3 frames 5¾x8⅞ on the under side by two ½ inch brads driven from the under side into top bar and a small screw from the top into each, when the screw is drawn, it is easily pried from the brads. Clasp the bottoms by double pointed tacks; this makes a variety of sizes with but little waste of room. We sell a good many full frames at home but they are too heavy for the groceries. I should like to see how the fancy sections are used. If they are in a large block, it don't seem that they would be attractive, and how can they be cut out for the table to look true and nice? I think they might be made of thin stuff steamed and bent, for hearts, &c., then they could be hung up with "blue ribbons" you know.

I thought I had *the* cellar for wintering. Gravelly soil, concrete wall 22 inches thick, dry as an upper room, room partitioned off with same material in one corner 20x15, 8 feet high—60 swarms in two rows around on shelves—1x3 feet high. I put them in first of December. Took them out first of February for a fly, then again about the 20th of February. They do not seem to make much noise until 3 or 4 days of warm weather, but keep coming out one at a time and get lost on the floor; it is dark as midnight and well ventilated by a tube and elbow 4x6 from the outside, and tube to stove pipe. I think there are too many in the room; last winter was mild and 30 swarms did not get uneasy. I don't think it necessary to carry them to summer stands after they have been in cellar a month and I had watched them closely. I just set them out around the cellar door, just as it happens. I keep them across the road some 8 rods away in summer. ALONZO BORDEN.

South Lyon, Mich., March 13th, 1877.

Your roof would doubtless answer nicely, but the expense of the thin basswood, would be considerably more than the pine, which we always have on hand, for the roof is made of the very same pieces that are used for the siding, and where a number of hives are made, the labor is trifling. You are right about the fancy sections. but we need the blocks all the same, even if we do succeed in getting thin veneer bent into the required shape, for the spaces between these fancy sections must be closed with something.

Bees will sometimes come out, and at other times they will not, even if the wintering room be ever so dark, and at present we are about as much in the dark about it, as we are in trying to tell why bees sometimes winter finely, at other times do not, with precisely the same treatment.

NEW SWARMS, AND VENTILATION.

SOME OF A WOMAN'S EXPERIENCE.

WE are very much pleased with the extractor, frames, section boxes, &c. The frames are just splendid. Several of our neighbors that have seen them think they will send to you for some. The section box is just the right size for a great many who only want a pound of honey and the section-box full will just fill the bill.

I was sorry when I read D. W. Fletcher's letter in "Blasted Hopes" in the May No., but I can not agree with him that bee-keeping is poor business to depend on for a living, or that it requires considerable capital, but I do think it requires a good deal of care to insure success, and so does any other business, to make it profitable. Every one in this locality except ourselves had bad luck with their bees last winter, but it was all through ignorance or carelessness. Some of them never read a book or paper on bee-keeping in their life and did not know how to care for them, those that did know were careless and neglected them.

As for capital it was. Oh, such hard work for us to raise the $30. that our first hive of bees and the express cost. We got them two years ago the 29th of May. We increased to 7 that summer by artificial and natural swarms and wintered them in the cellar with good success. Increased to 24 last summer and wintered the same as before. Five hives got the dysentery two weeks before setting them out but they are doing as well as the others now. We sold honey enough last summer to pay for our bees, lumber and paint for hives, and $1.50 per day for the time my husband was employed in making hives and caring for the bees. I have sold $11. worth of honey this spring and our hives are all full of honey which we intend to extract as soon as our bees get through swarming. They commenced to swarm on the 17th of May; we have had 13 swarms. We had one swarm to-day that had three queens, and the hive that cast the swarm killed and carried out four more. It was a third swarm; the same hive cast a swarm yesterday.

I would like to have every man and woman who has struggled for years in poverty, try bee-keeping. If your neighbors and friends laugh at you and prophesy all sorts of bad luck, just give them to understand that the word fail is not in your vocabulary.

Now Mr. Root, I wish to tell you of our first bad luck. We had three swarms come out at once and unite. We found the queens, divided the bees, and put them in three separate hives; after placing them on the stand another swarm issued and one of the three attempted to follow; we stopped the hive up tight until that swarm was hived, perhaps about 15 minutes. Three days after we looked at them and they were all dead. The hive was quite wet inside. We never have raised a hive up from the bottom board for a new swarm, but after losing that one we looked at Quinby'y book and he says it is *very important* that new swarms should have an opening at the bottom. In hiving a swarm my husband has always used weak salt and water to sprinkle on the bees in a fine spray to drive them into the hive. Do you think the salt and water killed them or did they smother? They did not make any comb. We do not attribute that to bee-keeper's luck, we lay it to our own stupidity in not noticing what Quinby said about ventilating a hive.
MRS. S. A. PHILP.

Clare, Clare Co., Mich., June 1st, 1877.

We should prefer the water without salt, if any be used, which is seldom necessary. They smothered without any doubt, but it is by no means necessary to have a hole in the bottom board to prevent such a catastrophe. Your "stupidity" was only in neglecting to examine all the new swarms, and see if all was right just as soon as you got through. Look to your bees often during swarming time, and be sure that new swarms have a large airy entrance. This we can give them with great facility with the Simplicity hives. Push the hive forward so it projects at least 2 inches over the bottom board.

VARIOUS MATTERS.

WE wish it understood that we write only for those that know less about bee-keeping than we do, and those that know more, need not read our articles for they will have no use for such nonsense. And Mr. Editor if all of your stocks are like the 20 frame hive, you will not need any division boards, or any articles either. But how about the ones you had, that on the first of May had brood on only two or three combs and but small patches at that? How do you think they would prosper in a 20 frame hive? Then another thing we would like to ask you.

HOW MANY BEES IN A HIVE AT ONCE.

How is it that you have been doubting that a queen could produce 86,000 living bees at once when according to your statement of your 20 frame hive you have at least 15 frames 17⅝x9⅛ filled with brood on May 9th, which would give 114,000 every 21 days or (as the worker bee lives 45 days) 2 1-7 times that, which would be 244,000 living bees on the stage of action at once? Be careful friend Novice, or you will beat Adair and Gallup out of sight on what a queen will do in one of those New Idea hives.

You ask how it is we York State folks have so many weak stocks, &c. We can tell you just about as well as you told us the spring after you had such visions of bottles, cans, pails, barrels, and so on, filled with honey, and came out with bees enough to decently fill two or three hives. It was simply this—they died.

MORTALITY IN YORK STATE.

Onondaga, Cayuga, and Tompkins counties, seem to have suffered most. Even our old *veterans* in bee keeping could not keep them. One man that had kept bees for the past 20 years, lost 118 from 130. Another who understands bees as well as any person in this state and probably as well as any person in the U. S., lost 150 out of 200, and the remaining 50 very weak, while those that had from 10 to 30 have but few or none left. Stocks that were strong in numbers March 15th. were all gone May 1st. To say that three-fourths of all the bees in the above three counties are dead would be placing it at a very mild estimate. We have 80 stocks left of our 104 last fall, 50 of which are good fair stocks and the other 30 weak.

Novice seems to think we have our hobbies, and perhaps we have, but we can hardly see where they are unless it is to make bee-keeping a paying institution, for we have given in GLEANINGS for the past three years everything from a gimcrack down to a whistle made of a pig's tail in the matter of bee-keeping, and have only just commenced to give our experience. Our hobby can not be division boards we are sure, as we only use them for weak swarms, and to secure comb built true in frames, as one-half of our stocks have never seen a division since they got their combs built.

THE GALLUP FRAME.

Perhaps it may be our Gallup frame, and if so we say amen to it, for there is no frame in use that bees can be built up with so quickly, and yet send large numbers to the field as with the Gallup frame. E. Gallup proved this to bee-keepers years ago and no one has successfully contradicted it. If any one doubts it let him give it an impartial trial and be convinced. Again, in May No. of GLEANINGS we see that we shall soon change our frame and hive (or rigging) if we have not already done so. Now Mr. Editor just as soon as we change our hive or frames you and the readers of GLEANINGS shall know it free of charge, and until we tell you, remember we have the same frame, hive and honey box, only keep bees for the money there is in the business and shall only use that style of frame and honey box that will give us the most bees and honey.

By the way, friend Root does not your talk in GLEANINGS tend to lead beginners to be lazy bee-keepers? You talk about its being such a job to take out boxes as soon as finished, and so much fussing to build up a weak swarm, as if it were a dread to you to touch a bee hive, &c., while a live bee man can hardly keep his hands off them even to eat his meals, it is such fun to see the little fellows work, and see how fast he can build a swarm up. We venture the assertion that if Novice had gone to work as enthusiastically on that 20 frame hive of bees, as he has in defense of the comb fdn., he could have made twice the money out of them he will now.
G. M. DOOLITTLE.

Borodino, N. Y., June 4th, 1877.

Beg pardon friend D., but the 20 frame hive had Adair frames, almost such a frame as your Gallup. If I conveyed the idea that 15 frames were full of brood alone, I was a little hasty. Perhaps 15 of the frames contained brood in half the number of cells; this would give us 54,000 cells of brood, or over 2500 eggs in a day for over 21 days. This is the best work we have ever had from a queen, but as she was a hybrid and the bees very cross, we made three colonies of them and sold two of them for $14.00 before June 1st.

I agree with you, that probably none of us know why bees die in the spring.

I did not mean that you should change your Gallup frame, but only the plan of putting on the honey boxes. I do not think the Gallup frame is going to be liked generally as well as the L., because the great mass of our bee-keepers have decided in favor of the latter, and very few indeed are using the Gallup. In the manufacture of supplies I have had a better opportunity of learning this, than perhaps any other person. There are without doubt more Langstroth frames in use now, than all other kinds together. Next to this, I should say more American than all of the balance. There are then about an equal number of the Gallup and Quinby. Within the past two years, great numbers have changed to the Langstroth.

We all know friend D., that your hobby is to make bee-keeping a paying institution, and we feel too, the debt we owe you. As far as regards lifting out *two* sections at a time or *eight*, our friends are a great many of them just now doing it, and shall we not let them decide which way is cheapest? Those who have been educated to extracting, will have no patience with sections, unless they can lift them out just as quickly as the 8 or 10 lb. combs for the extractor. I do not think they will be "lazy." On the contrary, I would have one man do all the work for—for—a "great big" apiary.

GLEANINGS IN BEE CULTURE.

Published Monthly,

A. I. ROOT.
EDITOR AND PROPRIETOR.

MEDINA, OHIO.

Terms: $1.00 Per Annum.
[*Including Postage.*]
For Club Rates see Last Page.

MEDINA, JULY 1, 1877.

He that is greedy of gain troubleth his own house. Prov. 15: 27.

◆

NELLIS has sent us 39 subscribers, and Doolittle 52. According to the offer of our excellent friend, Dr. Brown, Doolittle is to have the tested queen.

THE chaff hives are a perfect success so far as hot weather is concerned. The bees do not hang out at all, as they do in the Simplicities, when placed in the sun, and they are making astonishing progress in the section boxes.

FOR some reason unknown to us, the section boxes this season are filled with honey clear up against the wood; it may be because the sections are smaller and thicker, or on account of the bountiful flow of clover honey. In either case we are thankful to find them working so beautifully.

THE plan friend Sayles of Hartfort, Wis., uses to introduce virgin queens, does not differ essentially from the methods already in use. That he succeeds is without question, for we have a neighbor—a new beginner, who has introduced two safely the first time trying. Of course we refer to virgin queens that are several days old. We have a few times succeeded, but again they would be killed at once, every time.

THE plan of sawing stuff for frame and section boxes by cutting off a bundle of the sticks at once, was suggested by friend Doolittle when here. We improved on the idea by using bands of stout paper so that the pieces were securely bundled ready to ship after they were sawed off. When we began to put the sections together by grooving, this proved a very great saving of labor.

THE Adams, American and United States Express Co's have made an arrangement whereby queens may be sent on any of the above lines at a cost of 10c only. Charges to be prepaid the same as postage, namely, one cent per ounce; but nothing carried for less than 10 cents. If lost, the Co. will be responsible to the amount of $1.00 only. Where postmasters will not receive queens, this arrangement will probably be of much benefit.

AS we have now over 2,000 subscribers, and give away as sample copies over 1,000 more each month, we have thought best to advance our rates for advertising to 20c. per line. As we receive no advertisements of patent medicines, patent bee hives, or anything else that might mislead or disappoint our customers, we do not think the price unreasonable. If it should result in a dropping off of our ads., we will give you more pages of reading matter, that is all.

◆

PRODUCING HONEY, &c.

THE question "How do bees reduce their honey as gathered from the flowers, to the nice ripe honey we find after it is sealed over?" was brought up at the North Eastern Bee Convention. We gave our experiments in the matter, but as it was generally thought to be some of Doolittle's nonsense, we would like to give them here, so as to have the readers of GLEANINGS experiment and see if we are correct. All bee-keepers can tell whether their bees are getting honey or not by the roaring made by them at night, as bees only make this roaring while reducing their honey. Let two or three days of rain succeed a plentiful honey harvest and all roaring ceases with the night of the third.

Our experiments have led us to the conclusion that all honey brought in from the fields by the outside laborers is given to the young bees, taken into their honey sacks, and if more is gathered than their sacks can contain, it is deposited in the cells till night, and then evaporated down; although the evaporation is going on to some extent during the day time. At night all hands join, from the outside laborers with jagged wings down to bees but a day or so old, and the honey or thin sweet is taken into the honey sack, thrown out on the proboscis, drawn back in again and so on until by the heat of the hive these small particles of honey are brought to the right consistency, when it is deposited in the cells. In order to do this the bees hang loosely so that when the proboscis is thrown out it shall not hit another bee or the combs or hive. Many a night have we watched their operations, and by the light of a lamp you can see the little drops of nectar sparkle as it is thrown out on the proboscis and drawn in again. When honey is coming in slowly you will not be likely to see this process. All, doubtless, have observed that when bees are getting honey plentifully it shakes readily from the combs at night, while in the morning before the bees go into the fields not a particle can be shaken from the combs.

HOW TO KEEP PURE STOCK WITH NATURAL SWARMING.

Novice asks us to tell how we keep our stock pure with natural swarming. Of course all know that all drones should be reared from the best queens you have in your yard, carefully excluding all drone comb from hybrid or black stocks. We usually have three or four queens or perhaps a dozen between which there is but little difference. We get some one of these stronger than the rest by means of that division board, or by giving frames of hatching brood so that they shall swarm a little first and give us good cells. Now, as soon as a hybrid stock swarms we go to this hive, get a queen cell, insert it in their combs and cut off all other cells. If we wanted after swarms with pure queens we would put in two or three cells. The other good stocks will swarm along as you want cells, or if the cells were not quite ready when the first hybrid stock swarmed wait till they are, and when you insert the cell cut off all cells in the hybrid stock. If we had but one queen we should have to raise most of the cells artificially and insert them in the same way.

O. W. Parker asks, page 163, "Is not the reason of Mr. Doolittle's success with box honey that he reduces the brood nest to the capacity of the queen?" Exactly friend P., and this is another of Doolittle's hobbies; but if you will ride on such a hobby you will find it will turn out more honey than any you ever rode. If we were to work for extracted honey we should work on the same plan, that is, have the queen keep the combs she occupies full of brood, and keep her eggs out of the combs we extract from. If a queen will keep but five frames filled with brood, have it in just those five frames and not scattered over ten or more.
G. M. DOOLITTLE.

Borodino, N. Y., June 4th, 1877.

Humbugs and Swindles

Pertaining to Bee Culture.

[We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.]

ENCLOSED are stamps for GLEANINGS—June No. Should I decide to go into the business shall become a subscriber. In your May No. you speak of a Mrs. Lizzie Cotton. I have every reason to fear that I am *one* of her *victims* to the amount of $20.00 as she *doesn't fulfill*. Had I seen your article before sending the money I should not have sent it, or had any business transaction with her. I shall write her again very soon, and if she fails to do as she positively promised I shall pronounce her a *fraud*, and hope she may be published to the world, that others may not be deceived, and lose by her as I undoubtedly shall.
MRS. A. K. TUTHILL.

East Cleveland, Ohio, June 22d, 1877.

The money is lost without question unless you have a better faculty than we have, of making her give it up.

ANGER OF BEES. I confess I do not like the term "anger," when applied to bees, and it almost makes me angry when I hear people speak of their being "mad," as if they were always in a towering rage, and delight in inflicting exquisite pain on everything and everybody coming near them. Bees are on the contrary, the pleasantest, most sociable, genial and good natured little fellows one meets in all animated creation, when one understands them. Why, we can tear their beautiful comb all to bits right before their very eyes, and without a particle of resentment, but with all the patience in the world they will at once set to work to repair it, and that too without a word of remonstrance. If you pinch them, they will sting, and any body that has energy enough to take care of himself, would do as much had he the weapon.

We as yet know very little of bees comparatively, and the more we learn, the easier we find it to be to get along without any clashing in regard to who shall be master. In fact, we take all their honey now, almost as fast as they gather it, and even if we are so thoughtless as to starve them to death, no word of complaint is made.

We should try to bear in mind that a single bee, bears much the same relation to the colony, as does one of our fingers or toes, to us. If somebody carelessly or purposely pinches a toe or finger, self preservation demands that we make him stop, and if you crush a bee, the whole hive remonstrates and threatens; in fact they do this if you only give them reason to think they may be in danger of injury. Your business is to assure them by your careful and gentle movements that they need fear no injury from you, and then you will find them very patient, and as tractable as any of our domestic animals.

There are a few circumstances, under which bees seem "cross," and although we may not exactly be able to account for it, we can take precautions to avoid these unpleasant features by a little care. A few years ago a very intelligent friend procured some Italians, an extractor, &c., and commenced bee culture. He soon learned to handle them, and succeeded finely; when it came time to extract, the whole business went on so easily, that they were surprised at what had been said about experienced hands being needed to do the work. They had been in the habit of doing this work towards the middle of the day, while the great mass of the bees were in the fields, as I had directed, but in the midst of a heavy yield of clover honey, when the hives were full to overflowing, they were one day stopped by a heavy thunder shower. This of course drove the bees home, and at the same time washed the honey out of the blossoms so completely that they had nothing to do but remain in the hives until more was secreted. Not so with their energetic and enthusiastic owners; as soon as the rain had ceased, the hives were again opened and an attempt made to take out the frames, as but an hour before, but the bees that were all gentleness before, seemed possessed of the very spirit of mischief and malice, and when all hands had been severely stung, they concluded that prudence was the better part of valor and stopped operations for the day. While loads of honey were coming in all the while, and every bee rejoicing, none were disposed to be cross, but after the shower, all hands were standing around idly, and when a hive was opened, each was ready to take a grab from his neighbor, and the result was a free fight in a very short time. I know of nothing in the world that will induce bees to sting with such wicked recklessness, as to have them get to quarreling ever combs or honey that are left exposed when they have nothing to do. From a little carelessness in this respect, and nothing else, I have seen a whole apiary so demoralized that people were stung when passing along the street several rods distant. During the middle of the day when bees were busily engaged on the flowers, during a good yield, I have frequently left filled combs standing on the top of a hive from noon until supper time without a bee touching them, but to do this after a hard rain, or at a time when little or no honey was to be gathered in the fields, might result in the ruin of several colonies, and you and your bees being voted a nuisance by the whole neighborhood.

Almost every season we get more or less letters complaining that the bees have suddenly become so cross as to be almost unmanageable, and these letters come along in July, after the clover and linden have begun to slack up. The bees are not so very unlike mankind after all, and all you have to do is to avoid opening the hives for a few days, until they get used to the sudden disappointment of having the avenues through which they were getting wealth so rapidly, cut off. After a week or ten days, they will be almost as gentle as in the times when they gathered a half gallon of honey daily, if you are only careful about leaving hives open too long, or leaving any bits of honey or comb about.

Within a few feet of me sits a young man who once laughed about being afraid of bees, and commenced work in the apiary with such an earnest good will that I had high aspirations for him. One beautiful morning he was tacking rabbets into the hives in front of the door to the honey house, whistling away, as happy as the bees that were humming so merrily about his head. Pretty soon I saw some honey and bits of combs that had dropped from one of the hives, scattered about on the ground. I told him he had better stop and clean it up, or he would certainly get stung; as the bees seemed very peaceable while licking it up, he thought he would let them have it, in spite of my warning. After they had taken all the honey they began buzzing about for more, and not finding any, in a very ungenerous way commenced stinging him for his kindness. His lesson was a more severe one than I had expected for they not only drove him from the apiary that morning, but I fear for all time to come, for although years have passed, he has never since wanted anything more to do with bees. I regret that he did not at the time also learn the folly of insisting on having his own way.

I can not tell you, at present, why bees sting so coolly and vindictively just after having had a taste of stolen sweets, yet nearly all the experience I have had of trouble with stinging, has been from this very cause. Bees from colonies that have a habit of robbing, will buzz about ones ears and eyes for hours, seeming to delight in making one nervous and fidgety, if they succeed in so doing, and they not only threaten, but oftentimes inflict the most painful stings, and then buzz about in an infuriated way, as if frantic because unable to sting you a dozen times more after their sting is lost, The colonies that furnish this class of bees are generally hybrid, or perhaps black bees having just a trace of Italian blood. These bees seem to have a perfect passion for following you about, and buzzing before your nose from one side to the other (until you get cross-eyed in trying to follow their erratic oscillations) in a way that is most especially provoking. One such colony annoyed us so much while extracting, that we killed the queen although she was very prolific, and substituted a full blood Italian. Although it is seldom a pure Italian follows one about in the manner mentioned, yet an occasional colony may contain bees that do it; at least we have found such, where the workers were all three banded. That it is possible to have an apiary without any such disagreeable bees, we have several times demonstrated, but oftentimes you will have to discard some of your very best honey gatherers, to be entirely rid of them.

With a little practice the apiarist will tell as soon as he comes near the apiary whether any angry bees are about, by the high key-note they utter, when on the wing. It is well known that with meal feeding we have perfect tranquility although bees from every hive in the apiary may be working on a square yard of meal. Now should we substitute honey for the meal, we should have a perfect "row," for a taste of honey found in the open air during a dearth of pasturage, or at a time when your bees have learned to get it by stealing instead of honest industry seems to have the effect of setting every bee crazy. In some experiments to determine how and why this result came about, we had considerable experience with angry bees. After they had been robbing, and had become tranquil, we tried them with dry sugar; the quarrelsome bees fought about it for a short time, but soon resumed their regular business of hanging about the well filled hives trying to creep into every crack and crevice and making themselves generally disagreeable all round. If a hive was to be opened, they were into it almost before the cover was raised, and then resulted a pitched battle between them and the inmates; the operator was sure to be stung by one or both parties, and pretty soon some of the good people in-doors would be asking what in the world made the bees so awful cross, saying that they even came in-doors and tried to sting. Now why could they not work peaceably on the sugar as they do on the meal, or the clover blossoms in June? We dampened the sugar with a sprinkler, and the bees that were at work on it soon started for home with a load; then began the high key note of robbing, faintly at first, then louder and louder, until I began to be almost frightened at the mischief that might ensue. When the dampness was all licked up, they soon subsided into their usual condition. The effect of feeding honey in the open air, is very much worse than from feeding any kind of syrup, and syrup from white sugar incites robbing in a much greater degree than that from brown sugar; the latter is so little relished by them that they only use it when little else is to be found. It is by the use of damp brown sugar that we get rid of the greater part of what are usually termed angry bees, or bees that prefer to prowl round, robbing and stinging, rather than gather honey "all the day" as the greater part of the population of the apiary does. The sugar should be located several rods away, and should be well protected from the rain, but in such a way as to allow the bees to have free access. When no flowers are in bloom, they will work on it in great numbers, but when honey is to be found, you will see none but the prowling robbers round it. These you will very soon notice, are mostly common bees and those having a very little Italian blood. We have seen Italians storing honey in boxes, while the common bees did nothing but work in the sugar barrels. Where you work without a veil, it is very convenient to have these annoying bees out of the way, and even if they belong to our neighbors, we prefer to furnish them with all the cheap sugar they can lick up.

The remarks that have been made are particularly for large apiaries; where one has only a single hive and no neighbors who keep bees, the case is something like Robinson Crusoe on the Island; no chance for stealing, and consequently nothing to be cross about. Bees are seldom cross or angry, unless through some fault or carelessness of your own.

ARTIFICIAL COMB. Although several attempts have been made to make comb for the bees of full depth of cell, we believe all have resulted in failures; the bees either refusing to use them, or gnawing them down, and building their own in place. If given the base of the cell, however, with only shallow walls of such depth that the bees can reach to the bases with their mandibles so as to shape and thin the bottom as they wish before the walls are raised, the case is quite different, for they are used then as readily perhaps as their own natural comb, as has been abundantly proven by the COMB FOUNDATION, which see.

ARTIFICIAL FERTILIZATION. Much time and money has been expended in wire cloth houses, and glass fixtures to accomplish this result, the more perhaps because a few sanguine individuals imagined they had succeeded in having the queens meet the drones in confinement, thus securing the advantage of choice drones as well as queens to rear stock from. As several years have passed, and no one has succeeded in verifying their experiments, we shall have to conclude it was all a mistake. A friend was quite sure he succeeded, but after examining into the matter it was found that the queens got out and took their flight in the usual way through the passage that was left for the worker bees, he having based his calculations on the oft repeated statement that a queen could not pass through a passage 5-32 of an inch in width. The queen just before her flight, is very slender, and will get through a passage that an ordinary laying queen would not, and those who claimed to have succeeded, being rather careless observers, might have supposed that the fertilization had in reality taken place in the hive. Again, one of those who claimed to have succeeded states that a queen will always take exercise in the open air, after she has been fertilized in confinement; this seems to render the whole matter ridiculous, especially if she takes this flight before she commences to lay. About the year 1870, hundreds of bee-keepers were busily at work, trying this project with a view of keeping the Italian blood in a state of absolute purity, in neighborhoods where black or common bees were kept in considerable numbers; and the subject affords a fair illustration of the mischief which may be done by careless or unscrupulous persons, in reporting through the press, what has been guessed at rather than demonstrated by careful experiment.

Taking into view the in and in breeding that would have resulted had the experiments really been a success, it is doubtful if it would have been a benefit after all. When it was found that the Italians speedily became hybrids where so many black bees were all about us, as a matter of necessity frequent importations from Italy began to be made, and when it was discovered that stock fresh from their native home at once showed themselves superior honey gatherers, the business assumed considerable proportions and now almost every apiarist of 50 hives, has an imported queen of his own to rear queens from. This has the effect of not only giving us the best stock known, but of giving frequent fresh strains of blood, and is perhaps very much better all around, than it would have been had artificial fertilization been a success.

ARTIFICIAL HEAT. As strong colonies early in the season, are the ones that get the honey and furnish the early swarms as well and are in fact the real source of profit to the bee-keeper, it is not to be wondered at that much time and money has been spent in devising ways and means whereby all might be brought up to the desired strength in time for the first yield of clover honey. As market gardeners and others hasten the early vegetables by artificial heat, or by taking advantage of the sun's rays by means of green houses, &c., it would seem that something of the kind might be done with bees; in fact we have by the aid of glass, and the heat of a stove, succeeded in rearing young bees every month in the year, even while the weather was at zero or lower outside; but so far as we can learn, all artificial work of this kind, has resulted in failure, so far as profit is concerned. The bees, it is true, learned to fly under the glass and come back to their hives, but for every bee that was raised in confinement, two or three were sure to die, from one cause or another, and we at length decided it was best to wait for summer weather, and then take full advantage of it.

Later, we made experiments with artificial heat while the bees were allowed to fly out at pleasure, and although it seemed at first to have just the desired effect, so far as hastening brood rearing was concerned, the result was in the end, just about as before; more bees were hatched, but the unseasonable activity or something else killed off twice as many as were reared, and the stocks that were let alone in the good old way, came out ahead. Since then we have rather endeavored to check very early brood rearing, and with, we believe, better results.

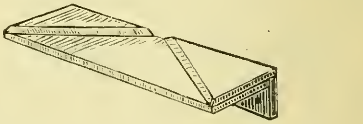
A few experiments with artificial heat, have, apparently succeeded, and it may be that it will eventually be made a success; but our impression is, that we had much better turn our energies to something else, until we have settled warm weather. Packing the hives with chaff, sawdust, or any other warm dry porous material, so as to economize the natural heat of the cluster, seems to answer the purpose much better, and such treatment seems to have none of the objectionable features that working with artificial heat does. The chaff needs to be as close to the bees as possible; and to this end, we would have all the combs removed except such as are needed to hold their stores. Bees thus prepared seem to escape all the ill effects of frosty nights in the early part of the season, and we accomplish for brood rearing, exactly what was hoped for by the use of artificial heat.

For the benefit of those who may be inclined to experiment, I would state that I covered almost our entire apiary with manure on the plan of a hot bed, one spring, and had the satisfaction of seeing almost all die of spring dwindling. At another time I kept the house apiary warmed up to a summer temperature with a large oil lamp, for several weeks, just to have them beat those out of doors. The investment resulted in losing nearly all in the house apiary with spring dwindling, while those outside stayed in their hives as honest bees should, until settled warm weather, and then did finely just because I was "too busy to take care of them" (?) as I then used to express it. After you have had experience enough to count your profitable colonies by the hundred, and your crops of honey by the ton, it will do very well to experiment with green houses and cold frames, but beginners had better let such appliances alone unless they have plenty of money to spare for more bees.

* * *

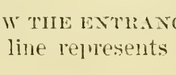
Since writing "ALIGHTING BOARDS" *we have devised the following:*

To those who insist on the three cornered blocks and a board in front, for door step, we offer the following to be attached to any hive having a movable bottom. Get out of a $\frac{7}{8}$ board a piece $1\frac{3}{4}$ inches wide, and as long as the width of the front of your hive. Now, a piece of the same length, and width, but only $\frac{3}{8}$ thick; nail these together as shown in the accompanying cut:



ALIGTING BOARD, DETACHABLE.

The thick piece being nailed into the edge of the thin one. The three cornered pieces are to be nailed on the top of both, and their shape and dimensions will be seen at a glance; they are to be only $\frac{3}{8}$ thick, for the entrance is contracted and enlarged by moving the hive backward or forward on the bottom board, and we wish them so that no mice can get in under any circumstances. When the entrance is very large as in the summer time, the bees gain access by crawling up the sides of these blocks, and to facilitate this, we have blocks sawed on a bevel. This is very quickly and nicely done by cutting a square board from one corner to the other as in the diagram.



HOW TO SAW THE ENTRANCE BLOCKS.

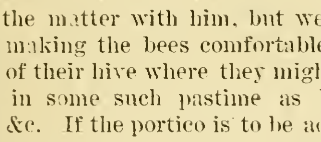
The dotted line represents the course of the saw. Now to produce the bevel, one corner of our square board, say A, is to be raised about two inches, while the opposite corner B, lies on the saw table; this is easily done by a strip under A, that slides against the gauge while the saw cuts through on the dotted line.

This alighting board guides the bees into the entrance, there are no loose blocks to be scattered about in the summer and get lost, it can be put on or taken off from any bottom board by turning two screws, and it will not permit storms to beat in at the entrance, even if no portico be used, for the top of the entrance blocks, is on a level with the bottom of the hives. We would bank up with sawdust that the bees might get in easily, even if they fell a foot or two short of the hive when coming in.

These alighting boards can be furnished well made and neatly painted, for about ten cents each.

PORTICO FOR HIVES.

Although no one has ever given a satisfactory reason for encumbering a hive with a portico, that we know of, still there are many who can not be satisfied without them. One of our neighbors says they make a comfortable shade for the bees when hanging on the outside of the hive; very likely he is right,and we do not know that we care to argue the matter with him, but we should prefer making the bees comfortable on the inside of their hive where they might be engaged in some such pastime as building comb, &c. If the portico is to be added for ornament, we would make one that was ornamental, and would only put it on the hives in the front yard, or those in a central or conspicuous part of the apiary, but would by no means think of encumbering the whole of them, upper stories and all, with such an unwieldy appendage. The Simplicity hive is for real work, and occupies just the smallest amount of space possible, consistent with this end in view; and if we are going to make it ornamental, it should be by adding something that can be taken off whenever occasion demands. To this end I have devised the portico shown below.



PORTICO, DETACHABLE.

The top and sides, are made of a strip of ⅜ pine sawed nearly through and bent where the angles come, thus giving us neat joints at a small expense. The scroll work underneath, to which the above is nailed, can be sawed from a ⅜ board by almost any of the scroll sawing machines that are now in such common use. The whole is attached to the front of the hive by a couple of screws. When it is kept free from spider's webs and nicely painted, I confess that the bees walking about their doorway underneath, present a very pretty appearance. When dust or webs accumulate, the screws may be turned partly to allow of its being taken off, and thoroughly brushed, or even washed if need be. Nothing can be considered ornamental about an apiary, that is not neat and tidy. These porticos can be well made and neatly painted, for about 25 cents.

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In order to stem, if possible, the current of inquiries in regard to queen rearing etc., we have taken the liberty of jumping ahead a little, temporarily.

QUEEN REARING. It has been said that wax and honey are the merchantable products of the apiary, but ever since the advent of the Italians there has been a constant call for queens, far ahead of the supply; and if we were asked what product of the apiary would bring cash quickest and surest, we would unhesitatingly say "dollar queens." It may be well to explain here that a dollar queen is one that has been reared from a pure mother, and has just commenced to lay. She may prove to be purely fertilized, and she may not, but the apiarist for this low price, guarantees nothing, more than that she has been raised from a pure mother. Neither does he guarantee safe delivery as a general thing; the transaction is supposed to be something as if you were standing by his side, and he should open a hive and say:

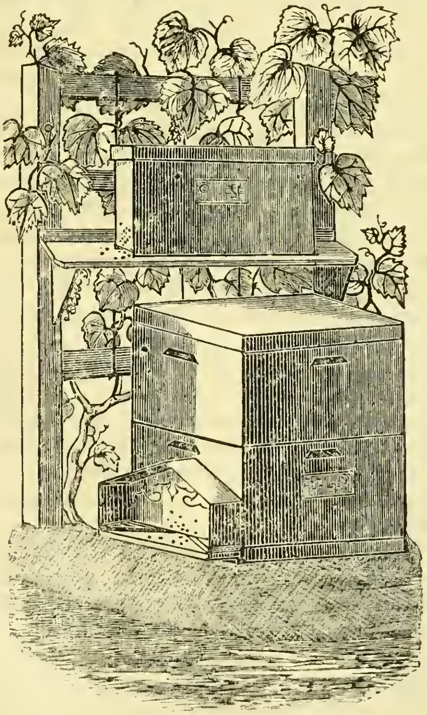
"There is a queen that was reared from brood from a pure mother; she has commenced laying as you see, but I know nothing of the kind of bees she may produce. You can take her just as she is for $1.00, but at the price I can be in no way responsible farther."

As the demand is usually far in advance of the supply, the conscientious apiarist can only fill orders in their turn, and this has been another cause for dissatisfaction, on account of the delays that seem unavoidable, especially in the spring when everybody is wanting them right away. I do not mean to blame those who want them at once, for it is my disposition exactly, to want a thing as soon as I have paid for it.

If you can raise good dollar queens, you can certainly raise good tested ones, for a tested queen is nothing more than one that has proved herself prolific and purely fertilized. The test of purity generally recognized is that the workers show plainly the three yellow bands that are characteristic of the Italians.

There are ever so many ways of forming nuclei for queen rearing, but after having tried pretty thoroughly almost or quite all of them, I shall advise separate hives for each nucleus. If you are simply increasing your stock, use a new hive for each colony, but if you wish to add to your income by rearing queens for sale, I would advise a two comb hive for the purpose. These are made much like the Simplicities only that they are 3¼ inches wide inside instead of 14¼. For lightness, we will make the sides of ⅜ stuff. For reasons to be explained we will have the cover shut over the hive like the cover of a tool chest, and loose enough to slip over the bottom also, without sticking, for we can have no pulling and jerking about bee hives, even though they are "little ones."

Those who have tried queen rearing, have perhaps found it tiresome business to stoop so much as is required in looking over so many little hives. To remedy this, we will have them fastened to the grapevine trellises as shown in the following cut:



SIMPLICITY HIVE, NUCLEUS HIVE, PORTICO, ALIGHTING BOARD, ETC.

This brings them at a convenient height to work easily; we certainly would not wish to encourage any one in being lazy, but apiarists do sometimes get tired, and find it quite a relief to sit down for a moment or two, and the hive right below the nucleus, we find very convenient.

In inserting queen cells, putting in brood, etc., we also find the top of the hive quite a convenience. These nuclei are shaded by the broad leaves of the grapevines, and are held from being blown down by the wind by a screw put through the upper strip into the side of the hive; when a nucleus is to be sold, the screw is turned out enough to release it, the cover put under the hive, closing the entrance, a wire cloth cover tacked over the top, and it is all ready fer the express office. It may be well to remark here that nothing will insure careful handling like leaving the top of the hive so that every one that takes hold of the hive can see the bees plainly through the wire cloth. You may label a box "glass," "handle with care," "right side up," and as much more as you like, and it will not be half so plain to the railroad and express men, as the sight and sound of the bees buzzing right under their noses.

When you have your nuclei all fixed, each one neatly painted—see paint for hives—white, and supplied with a queen register card, you are to set about peopling the little boxes. If you commence this work during a good yield of honey, you will very likely get along finely, but if at a time when the bees are disposed to robbing, you may have all sorts of trouble. You can have your queen cells raised in these little hives if they are well peopled with bees, but as a general thing we would prefer having it done by a strong colony.

HOW TO GET GOOD QUEEN CELLS.

To rear good healthy long lived queens, we want the larvæ to have an abundance of the milky food prepared by the nurse bees, and we wish them to have it from the time they are first hatched from the egg, until they are sealed up as a queen cell. If you will examine the minute larvæ of different hives, you will discover a vast difference in the amount of food given to the infant bees. With a new swarm we will find the first larvæ that hatches is fed so profusely that they look almost like the inmates of queen cells, because the nurse bees are far in excess of the work that is to be done by them, but after the combs are filled with eggs, such is not the case. We can bring about this result at any time by taking all the brood away from any colony, and giving them only one comb containing this small larvæ, and this is just what we want for queen-rearing. The secret of being able to send larvæ for queen rearing safely by mail, consists in sending such as have this excess of food in the cells, for if the weather is not too cool, they will grow and thrive for two or three days, just as well, for aught I know, as if they were in the parent hive; when the food is all consumed, they must starve, and this illustrates the necessity of getting them into a hive of bees just as soon as they are received. It has been said that queens reared during the time of natural swarming are superior, but I think by securing this abundance of food in the way indicated, we can have them equally as good at any season when bees are flying freely. True it is some trouble to remove all the brood combs from a strong colony, and we therefore move the colony hive and all, putting a new hive containing our choice larvæ in its stead. This plan has never failed to give us fine queen cells, and queens that were prolific and long lived; and it is so quickly done that a lot of cells may be started every few days during the season. Unless the new hive looks much like the old one, the bees may but few of them go into it, especially if the old one is set so near at hand that they succeed in finding it. This is an additional reason for having your hives all just alike. We usually place the removed hive at an opposite side of the apiary.

WHEN TO CUT OUT THE QUEEN CELLS.

A queen is hatched in just 16 days from the time the egg is laid, as a general rule; therefore we must take measures to have the cells cut out before this time. The egg hatches into the minute larvæ, in just about three days, and if you have used these, you are to cut out your cells on the 12th day after you moved the colony. If you use a comb containing larvæ of all ages, the bees will be pretty sure to use some that are 6 days old, in which case you may have queens hatching by the 10th after the larvæ was given them, and they *may* get out a young queen as soon as the 9th. It is these queens that are hatched on the 9th or 10th day, that we have reason to fear may be short lived; hence our warning to give them nothing for starting queen cells but larvæ so small as to be just visible to the naked eye. You will get these by putting an empty comb between two brood combs, as we have before directed, until the eggs laid by the queen have just commenced to hatch. A frame of foundation answers nicely.

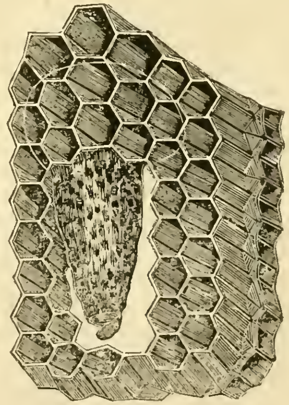
HOW TO CUT OUT THE QUEEN CELLS.

Provide yourself with a very thin narrow bladed pen-knife, and be sure that it is just as sharp as you can make it. If you have a dull knife and it is necessary to cut between two cells that are very close, you will very likely break one or both open, and then the bees will be very apt to tear them down. Cut them all out but one, and do it nicely. If they are not too close together give considerable room around the base or part that is attached to the comb.

We will suppose you have secured a fine lot of cells, have succeeded in cutting them out nicely, and have them all shut up in a little box where robber bees may not be trying to steal the honey that may have been started running in the operation of cutting them out. Do not let the robbers discover that honey may be pilfered by following you around, or you may receive some stinging lessons as a punishment for not being neat and cleanly in your work.

The little hives, we will suppose, are securely fastened on their shelves, and are all ready for their occupants. Go to any strong colony and gently lift out one of the central combs. This you can do by sliding the frame on each side a little away from it, or if the combs are crammed with honey, you may find it necessary to push a second or a third one back a little. You can make room to take out the first one quietly, in almost any hive, if you manage properly. Now we rather wish to find the queen, if we can by not taking too much time, and so we look over every comb carefully as we lift it out. If you do not find her on the first comb, put it in one of the little hives and take another. Proceed in this way until you have removed all the brood combs. As soon as you have found the queen, you are to put her with the comb she is on, in an empty hive. Now you can insert a cell in each comb as fast as you take them from the hive, and then place the comb cell and all, in your nucleus hive. If the comb contains hatching brood, the one will be sufficient, but if the brood is partly unsealed you had better put another beside it, or the brood may be chilled cool nights. You will probably make 5 good nuclei out of a fair colony, the bees that are in the fields will make another good one, and the old queen with her one comb still another. If you do not find the old queen, divide the hive all the same, but do not insert any queen cells until you find her. If you are so unlucky as to not find her at all, wait until the next morning, and then insert queen cells in all that have started some of their own, for it is a sure indication of queenlessness to find a nucleus building queen cells. Mark this, for I shall refer to it again.

HOW TO INSERT A QUEEN CELL.



The drawing above will probably make it

all plain, without much explanation. Your cells must be fitted in nicely, and pretty securely, or the bees will tumble them down to the bottom of the hives, for they are quite inquisitive in regard to the way things are done in their homes. I once thought I had made quite a discovery when I found that cells could be hatched safely by laying them just under the quilt on the top of the frames, or even at the entrance during very warm weather, but I soon found that a much larger part were torn down, than if they were nicely inserted in the midst of the brood. Where it can be done, I always insert a cell in place of one they have built in, and I have never found such ones destroyed. A cell that has been broken open in cutting apart, will usually be destroyed, but not always.

If your cells were cut out at just about the proper time, you will very likely find some of the queens hatched by the next day, and in ten days more on an average, they will be laying. I took a dollar queen from one of these nuclei just ten days ago, inserting a queen cell at the time, and to-day the new queen is laying. Now 100 of these little hives would at this rate give us 10 laying queens per day, and I think that an apiarist should consider it fair wages, even if half the whole number were lost, in different ways; and one person can very easily take care of 100, if he will follow the directions I shall give.

When I first commenced queen rearing, I thought it necessary to hunt up the young queens every time a cell was found open, or every time I looked into their hives—which by the way was about every day, and sometimes oftener. If you are keeping bees just for the fun of it, it may do to spend a quarter of an hour looking for a queen just to see if she is a nice one, but if you are trying to show your friends who worry about the time you "fuss with your bees" that there are dollars in the business, you need never see your queens at all until you wish to send them off. After inserting the cells, you have nothing more to do with them for about three days, and then you should provide yourself with a fresh lot of cells, and also with some pieces of comb containing larvæ just right for queen rearing. Take the hives in regular order and do not skip about. If you find a cell open at the end, your queen is probably all right,* and if there is no larvæ in the hive, insert a piece; as soon as anything happens to a queen, they will start queen cells on this brood, and therefore we always look at this piece of brood instead of looking for the queen. Should they by any possibility rear a queen of their own, it will always be from your choice brood. When in your examinations you find eggs in the cells—your eyes will soon become sharpened for these indications of greenbacks—you will turn the queen register to laying, and use her the first time you send off queens. As we wish to keep up the population of these little hives, it may be well to allow her to fill up her two combs pretty well before taking her out. When she is removed, insert a cell, and if all goes well you may have another queen in the hive the next morning. Always keep your queen register set, that it may show the state of affairs within, and be sure the bees always have brood in their combs, by giving them a fresh piece every three or four days. If you are faithful in this, you will never know anything about *fertile workers*, those pests of queen rearing.

CAUTION.

In selecting brood for queen rearing, be sure you have no drone larvæ, for the bees by some strange perversion of instinct, will very often build queen cells over them, resulting always in nothing but a dead drone. The poor drone seems unable to stand the powerful dose of concentrated food that is required to perfect a queen from a worker larvæ, and so dies when he is about half grown. Should a queen cell have been started over a drone larvæ, you can always tell it from a good one by its smooth exterior, while a genuine cell has a roughened surface like the drawing we have given.

If you suspect a cell is not going to hatch, do not tear it down, but insert another one beside it. If you have two or more cells so close together that they cannot be separated, insert the whole, and look often to them; you can very often find the first one while she is biting out, or so soon after she has come out as to save the others. We have often by this means saved all of three that were built close together.

For convenience of inserting brood so many times, we use a square "cake cutter" as it were; this is made of tin, with the edges very sharp. Press it in the comb far enough to mark it, and then you can cut out pieces all of a size. As one piece always goes in where another comes out, you can keep all unsightly holes in your combs closed up, and have no odd bits of comb lying about the apiary.

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WE are to-day a family of 2,042. June 28th, 1877.

A SHEET of fdn. was put into a two frame nucleus late Saturday evening. Monday morning it was a beautiful sheet of worker comb, with every cell filled with honey. Great numbers of similar reports are received daily, and it may transpire after all that a sheet of fdn. is of more value to a bee-keeper than an empty natural comb of the same size.

HOW TO FASTEN THE SHEETS OF FOUNDATION IN THE BROOD FRAMES.

Cut a board so that it will just slip inside your frame, and then fasten cleats on the board so that it may go into the frame just half way and no farther; in other words, the board is to come up inside the frame just even with the comb guide. Have your sheets of fdn. cut so as to leave ¼ inch space at each end, and ¾ inch at the bottom. Lay the sheet on the comb guide, close up to the top bar. A short stiff pointed butcher knife seems to be about the thing to fasten it with. Dip the blade in honey, and "butter" the wax to the comb guide. To prevent the sheet sliding along, you must rub it into the wood at intervals by dabs with the point of the knife, before you can stroke it from one end to the other. This last stroke is given with force enough to sink the point of the knife clear down to the wood, and makes the wax as secure as could possibly be done by heat. As the sheets can be put in at the rate of four in a minute, it is perhaps preferable to using any kind of machinery, and we would never think of using melted wax after having once learned to work it on the above plan. For section boxes, we find nothing to equal the plan given with the samples we send out.

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* If you find the cap hanging as in the cut, you may be *sure* a queen has gnawed her way out; sometimes this cap springs back and the novice waits day after day, while the queen is running about the combs.

DWINDLING.

FRIEND NOVICE:—I shall have to plead guilty to the charge of inexperience in the dwindling business, as I have had but very little of it in my apiary; although five of my nearest neighbors who keep bees, and are living within from 20 rods to 1½ miles, have lost all they had during the last four seasons. Whether the difference in the way in which my bees and theirs have been wintered had anything to do with the difference in our losses, I can not of course tell, but I am inclined to think it had. All the dwindling I have had since this subject has come up through the bee journals, was one year ago last spring, and then it was plainly traceable to the bees in the upper tier of hives getting out on the floor, leaving too few bees in the hives to rear brood as fast as they should, or to leaving some of them out of doors during the cold weather in March, as I mentioned in GLEANINGS one year ago.

This spring, a neighbor living three miles south, has lost all his bees by dwindling, although he thought they were in good condition the first of April; and another, living 1½ miles north has lost about half of his in the same way. So please don't say that we don't have dwindling in this section.

Now I really did not say that a colony with young bees does not dwindle, but that a hive *full* of them does not do so. There is a wide difference in the two expressions. A colony may have some young bees in it, but not enough to replace those that are lost, in which case it may dwindle.

What you would call a fair colony, I might call a weak one; but there is not much chance for misunderstanding each other when we speak of a hive full. If the colony you mention as having a fair quantity of bees in March, had brood in only three frames April 26th, I strongly suspect it was what I should have called a rather weak swarm, as I want my bees to have brood in from four to seven frames the first of March. If they are as strong as they should be in the fall, have good queens and plenty of honey, it is no trouble to have that amount of brood or even more; and that without the aid of a greenhouse. Why friend N. if I had such a colony and they would not rear brood in Jan. without a hothouse to help them, I would trade them off for a patent moth trap, and then present the trap to a man that wanted me to give him five dollars for telling me to use a piece of leather for a honey board.

'Tis true, colonies that commence breeding in January, consume more honey than those that do not begin until May; but one of the first mentioned never dwindles, with me, and is worth a half dozen of the latter for surplus honey. The most honey I ever obtained from an old stock was from one that swarmed May 1st. From the old stock and increase I obtained 216 lbs. of box honey. How much do you suppose I would have obtained if they had not commenced breeding until May? I too, have sometimes made good colonies of those that were queenless until nearly May, but they seldom yield much, if any surplus that season, unless we have a good yield in the fall, which is seldom the case here.

Tell those who use Harbison frames for surplus, to cut the notch for the strip that holds them together, exactly in the middle of the end pieces, then they can have the tops all tight, and if they wish to tier them up, all they have to do is to turn two or three of the sections in the lower tier upside down.

In my article in June No. GLEANINGS, page 157, read home apiary, instead of house apiary, and bee house instead of bee houses; and in that on page 167, instead of swarm so poor, read season so poor.

JAMES BOLIN, West Lodi, O., June 16th, 1877.

We agree very nearly friend B., and if you never have the dwindling to such an extent that you can neither cure nor explain it, it will be to us strong evidence that it is the bee-keeper's fault. Perhaps you had better talk with Doolittle.

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WE have three boxes and a barrel of beeswax; but "nary" scrap of paper or writing tells whom they are from. Letters are at hand saying they have sent us wax and asking for goods and money, but my friends, if you will be so thoughtless, you will have to take the consequences of the delay. While hunting all over and about the packages for some clue, even a pencil mark, we often feel as if we could "*shake*" the shipper for having caused us so much trouble, while one single scratch of a pencil would have saved it all.

Heads of Grain,

From Different Fields.

LATE SWARMS, &C.

I HAVE one in particular that I hived the 17th of Sept. last, a natural swarm, which has given me three good large swarms; one the 4th of June, one 15th, one 17th, and it is likely to give me the fourth in a day or two. How high is that for late swarms? I will have to differ with some

CONCERNING DRONES.

I allow my bees to rear all they wish until the swarming season is over, then kill them off. By so doing I have never lost but one queen and have kept my bees as pure as the first queen I bought. I would rather feed one peck of drones two months than lose one queen. Besides, the woods are full of black bees here and they would mix much more. WM. & S. A. PHILP.

Clare, Clare County, Mich., June 17, 1877.

Although there is some truth in your position, friend P., we think you go rather to an extreme when you say you would rather feed a peck of drones two months, than lose one queen. They would perhaps need a dollar's worth of honey, and an unfertile queen—how is it, friends? Is she fertile or unfertile, and what is she worth? It may be worth our while to "cipher out" just how many drones we can afford to furnish board and lodging, while we are raising queens. If they do not furnish enough naturally, just give us an order, and we will give you a hive furnished entirely with drone comb; a pair of rolls are now being made, for drone fdn. You can then set any queen you choose to supplying your yard with drones.

The following carries its moral with it.

Enclosed find $1.50 for the *Farmer's Barn Book*, advertised in your book list.

Yours Respectfully.

P. S.—I send this in common letter. You state in GLEANINGS that letters containing small amounts of money pass very safely through the mails. My experience has been quite different, having lost fully one-half sent in that way. C. W.

Clifton, Tenn., June 13th, 1877.

Nothing in the shape of a name could be found either on the letter or envelope, except the "C. W." We found on our mailing list a name that we presume is the right one, but had it not been for that, $1.50 more would have been lost. By the way, we have quite a bundle of letters from unknown friends, and as many of them contained money we presume they too are complaining about the carelessness or dishonesty of some one. It really makes one feel sad, to look over these letters from some earnest hopeful worker and feel that we are obliged to keep his money without rendering him a single equivalent, just because he forgot to sign his name. We have several times written to the P. M. but it seldom does any good. Sometimes we have neither town nor state given, and last evening we received a postal, without "ever a word on it at all, at all."

Send 10 lbs. yellow comb fdn. by "*Lightning Express.*" Six square feet to the pound, cells worker size. Bees swarming, make no delay; *can not wait.* Bees working on the last 10 lbs. you sent me as readily as on natural combs.

White clover just commenced blossoming. Barberry bushes plenty here, been in bloom ten days. Bees working on them. Don't know what they get. Tell us what you know about them as honey producers.

JEREMY LAKE, North Easton, Mass., June 6th, '77.

Who will tell us about barberry?

We are having a tremendous yield of honey; the trees are almost dripping with honey dew. In my particular neighborhood we have an abundance of sour wood, and *persimmon* which will come in, in a few days. The sour wood honey is very similar to the linden. W. L. Moores.
Elkmont Springs, Tenn., May 29th, '77.

Please let me know if section boxes can be used without starters; if so, how?
David S. Springer, Berne, Ind., June 1st, '77.

Certainly they can be used, but if you succeed in getting the bees to work in them, you would probably never get them apart without breaking the combs, for they would build across in all sorts of ways. The fdn. is to make them start at once and to insure one true comb in each frame. The separators are to make the combs exactly of a thickness.

GOOD AND BAD WORK, &c.

I have been patronizing a home manufacturer for some sectional frames and section boxes; I am thoroughly disgusted with the rough things and have got through. The hive and fixtures you sent me are O K. The tinned duck to cover the frames is the most perfect fixture out of your shop. I have before me a sample box from Messrs. Sayles of Hartford, Wis. It is A No. 1. I am through patronizing *homely work.*
E. Hunter, Manchester, Mich., June 14th, '77.

It seems to be rather a hard matter to get ordinary workers in wood to make *smooth* work, and we have had much trouble ourselves in getting the sections as we would like to have them; in fact it is only once in a while that we get a saw to cut just to suit us. The saws must have very small fine teeth, such as ordinary mill men seldom use, and they must be put in order by an expert. Now if you have nice clear tender pine, you can get nice smooth woods. We now use lumber that cost $31. per M. for sections, just to have them nice. A really nice section box is a pleasure to look at, but rough awkward twisted ones are enough to turn all ones joys into sorrows, as we know full well by bitter experience. We agree with you about tin edged sheets of duck, to cover the frames; a colony of cross hybrids may be shut up in second, without any danger of killing a single bee, and as it keeps the bees entirely away from the chaff cushions they may be kept clean and soft.

WHITEWOOD, OR TULIP HONEY.

Bees are doing very well now; plenty of white clover, and whitewood trees are just beginning to blossom which makes the bees rather slight the clover. I think those whitewood trees furnish most of our clover honey. S. H. Hough.
Rootstown, Ohio, June 12th, 1877.

My bees, 4 colonies, have built out the fdn. you sent me and have it nearly filled with white clover honey, all in the upper stories. As both stories are crammed full of bees, I suppose I shall have to commence to divide them soon and I will need more fdn.
Joseph Cook, Jackson, Mich., June 12th, 1877.

I had chaff cushions on all those in the house apiary and I found they had more brood than the others. I have 116 to commence the season with.
A. A. Rice, Seville, Ohio, April 18th, '77.

Bees doing finely; went into winter quarters, or rather had on summer stands 128 stocks. First of May found me with 126 good stocks and two queenless ones. Bees have commenced swarming. Had one swarm on the 14th of May and two on the 18th which is about three weeks ahead of last year. Prospects fine for a heavy honey crop this year.
Geo. W. Kennedy, Carrollton, Mo., May 19, '77.

MICE, A WARNING.

In the spring of '75, I had 14 stocks, took 1400 lbs. of extracted honey and increased to 25. Had 24 in the spring of '76, took about 1200 lbs. and increased to 52. Mice got in them last winter and destroyed 14, and one lost its queen leaving me with but 37 now. I swarm artificially. Have two imported queens from D. Tremontani, of Bologna, Italy. I sent last September for 16 for myself and neighbors, 3 of which died on the way. For express charges and duty we paid $34.00.

We have had too much rain this spring. Lost nearly all the honey from fruit bloom. though bees are doing well at present on black and honey locust, and white clover is just beginning to bloom. We have here but a poor market for honey. W. B. Collins.
Arrow Rock, Mo., May 28th, 1877.

MARKING HIVES FOR QUEENS.

In May Gleanings page 117, Dr. C. M. Joslin tells us how he made 34 colonies from 2, in one season, and says he saved all his queens in their first flight, &c. Please explain how he saved his queens, with the green paper, the flowered shawl and the red paper.

The different colors were to enable the young queens to avoid getting into the wrong hive by mistake; when they first leave the hive, they carefully examine all its surroundings, hovering over and all about it, going in and out repeatedly, and seeming to recognize the great importance of being able to get back home safely; in spite of all these precautions, they do sometimes get into the "wrong box," for they have often been found at the entrance of neighboring hives, where they were probably attracted by the humming of returning bees. By making the entrances of the hives unlike, by different colors or otherwise, it is supposed this loss may be avoided. It is certainly very unwise to locate hives just alike in color and appearance very near each other. If they can not be as much as 6 feet apart from centre to centre, it is a very good idea to make the entrances unlike, especially when young queens may be expected to be taking their flight.

"ROBBING" THE BEES.

In this latitude we seldom have frost before the first of Nov. and rarely any snow in winter. Then how late in the season may we rob our hives of honey and brood?

You can "rob" your hives as often as you like, and at any season of the year; and you can take all or part, just as you feel disposed. Of course you will not be so thoughtless as to let the little fellows starve; your horse and cow are supplied several times a day, and a man who would let his barn get empty and allow these domestic friends to starve, would be taken in hand by the strong arm of the law if his neighbors did not hold an indignation meeting and do something worse. We can not tell you how much honey you must leave in your hives any more than how much hay and oats you should have in your barn; you should look after the wants of your bees precisely as you do after those of the pony and old brindle.

WHY TWO OR MORE STORIES?

Why have the hives two and three stories instead of one, and why can not all the work be done in a single box? Enquirer.
Kingston, La., June 1st, 1877.

If you have a one story hive full of bees, they will fill every cell with honey in about two days, during a good yield, and if you extract, to give more room, you get thin, unripened honey. You must have two stories at least, so far as we can see, and many of our colonies at the present writing, need about three stories to give them room, until the honey in the sections is nicely capped over.

In comb built of fdn. bought of you last summer, 4½ cells to the inch, I find drone and worker brood side by side. The cell seemed to fit both; not a desirable characteristic I think. **Richard Ferris.**

Belleville, N. J., May 15th, 1877.

Hurrah for fdn.! It makes the most accommodating comb I ever heard of. It just suits the queen in every respect, if she chooses to lay worker eggs she does so, if drone eggs it answers equally well. I have frames side by side one full of worker the other of drone brood and the third has both. Mine is 4½ cells to the inch fdn. I got some 5 to the inch from J. H. Nellis, which was the nicest I ever saw and had honey deposited in it in 4 hours. How is that for high? **T. B. Parker.**

Goldsboro, N. C., May 12th, 1877.

We are very very glad indeed that Mr. Nellis is succeeding so finely, especially, as he is using a machine of our make. We too have learned all about the drones in the 4½ to the inch size, and now always send 5 cells to the inch, where wanted for brood comb.

TOADS EATING BEES.

You may say to Wm. Payne, of Spencer, Ohio, that toads *will* eat bees, and live workers at that, as I proved to my satisfaction, by laying a small bush on which a number of bees were clustered, in front of a large toad. The bees were snapped up as fast as his toadship could swallow them taking time however to give a wink of satisfaction as each bee slipped down. Toads are not tolerated in my apiary since that time.

W. H. Fletcher, Sauk Rapids, Minn.

TEMPERATURE AT WHICH BROOD IS INJURED.

I have a small observing hive containing a queen and half a pint of bees. On Thursday May 24th, the thermometer went down to 34°. The next day it snowed and rained all day. Towards night I found every bee stiff and motionless. I carried the hive into the house and set it before the stove and in half an hour the bees revived, but they entirely deserted the brood comb and clustered on the side next the stove. The following day they were on the brood comb again, which leads me to conclude the brood is uninjured.

At what temperature is it considered unsafe to expose brood as in uniting, transferring, or extracting?

J. H. Parsons, Franklin, N. Y., May 26th, 1877.

Brood will stand about as much exposure as a mature bee, unless left out of the hive for some time, we have never had brood chilled so as to die, unless it was left away from the bees, during a very cool night with a light frost for instance. Frames of brood may be taken out, handled and replaced, even during freezing weather, without injury, but if left out 24 hours or more, they are chilled beyond recovery even at a considerably higher temperature. In making artificial swarms, or raising brood into the upper story before the season will warrant such work, beginners frequently have lessons, on this point, that are usually remembered. During warm summer weather, say not less than 80° sealed brood may be out of the hive until it hatches without being lost, but it seems to thrive best when kept from 90 to 100°. Very small larvæ, if well supplied with food, will last 3 days, or until they starve, and it is by taking advantage of this fact that we are enabled to send larvæ for queen rearing by mail.

I rec'd the two hives all right—much pleased with them. I have transferred and my bees are quite proud of their new quarters. I also was proud when I transferred to see the comb so full of fine healthy brood. My bees are in fine order. I have not lost one colony this winter. I intend to devote much attention to them this season.

J. J. White, Clinton, Mich., May 16th, 1877.

FIGHTING PATENT RIGHT MEN.

Slung 876 lbs. sealed poplar honey yesterday from 30 colonies, the first I have taken this season.

I return your book by to-day's mail. Accept my thanks. Have routed Gillespie—"horse, foot and dragoons." He has "vamoosed the ranche" and departed for parts unknown. I got an order from Mr. Gould, properly executed, to dismiss the suit from court, as it was brought unauthorizedly in his name. It cost me $78.00 cash, and if you could get bee-keepers to help me a little I would be under obligations. I made the fight for all and a little help would be thankfully received.

J. F. Montgomery, Lincoln, Tenn., May 23d, '77.

It may be well to inform our new readers that Gillespie sued our friend M., for using a *two story* hive, claiming that his patent covered all two story hives in existence, and made him the trouble and expense above narrated. Such fellows almost deserve treating as highway robbers, and so far as we can learn the whole patent *right* business is almost all in the hands of just such thieves. Have we been too rough on them?

One of my old queens does not lay any eggs. What is the cause? I have to give the swarm brood from other hives. The queen is a fine looking queen.

Wm. St. Martz, Moonshine, Ills., May 21st, 1877.

We occasionally find a queen that does not lay, but such cases are not very common, without the bees rearing another before she fails entirely. The remedy is to remove her and substitute another, for they will probably never take steps to rear a queen, so long as they have one in the hive. We have several times found colonies badly run down, from this very cause, but we usually found defective wings or something of the kind, if the queen had never laid at all. Cases where an old queen ceases laying, without a young one being reared, are still more rare.

I found a swarm of bees in our woods and I with the help of another man cut the tree down and we put them into a movable frame hive with the transferred comb and now, three days later, they are working splendidly. They were in a crooked tree at about the height of 80 feet.

Geo. Rosekelly, Huron, Ohio, May 17th, 1877.

CLIPPING QUEEN'S WINGS BEFORE THEY BEGIN TO LAY.

I receive **Gleanings** very regularly and read it carefully, yet I go wrong sometimes. I had a swarm with a young queen to run off early this spring, and cropped five others to be sure of them, and I found after that neither of them were fertilized and tried to have them fertilized in confinement, but failed. I think it can't be did so I lost them. I would recommend you to tell your A B C boys not to crop any till they are sure they are ready to lay as some are ready much sooner than others.

My bees swarmed here by the first of April and some of the swarms will be ready to swarm again by the first of June.

I wish to try your comb fdn. but think the hot sun here in this dry hot climate will cause it to melt and fall, but if it does not on a fair trial I will order more of you in the fall. **Thos. H. Miller.**

Crawford, Texas, May 20th, 1877.

We entirely agree with you friend M., that "it can't be did," (fertilizing the queens in confinement), but you certainly did not read your journals with sufficient care, or you would never have clipped the wings of *five* queens before they had commenced laying. Thanks for your note of warning to the A B C boys. If natural combs do not melt down with you, you need have no fear of the fdn., for it is beeswax and nothing else.

I have been reading the back numbers of your valuable Bee journal, beginning with Vol. I and going regularly through to Vol. IV. It has opened a new world of interest to me, and such literature in connection with a few hives of bees which we have lately secured, will be an abiding source of pleasure. I hope, with practical advice from your paper to make a profit on bees next year. Our place is covered with white clover, the old garden in which the hives stand, is knee deep with it in full bloom and the bees are giving us beautiful honey. We also have large persimmon orchards (natural ones) which the bees have attacked very eagerly. Will that make good honey? Our hives are double story Langstroth. Will it be safe to take every thing from the upper story, leaving the whole lower story for supplies?

Your correspondent Dr. Peters interests me greatly.

Mrs. S. D. Thurmond.

Dry Grove, Miss., May 22d, 1877.

We have heard but little said of the quality of persimmon honey; will our Southern friends please tell us about it? We consider it perfectly safe as a general thing to take all the honey from the upper story at any season of the year. Should the bees however take a notion to move into the upper story, brood and all as they sometimes do, it would be unwise to take their honey, without first looking to see if the lower story were well supplied.

FOUL BROOD AND SALICYLIC ACID.

I am sorry to say I have (practically) lost all my bees since February by a virulent attack of foul brood. Salicylic acid was utterly useless, although I used it much more thoroughly than the Germans direct. I took endless pains and went to great expense to cure the plague, but it ran its course and now I have about two quarts of bees divided among four hives. All the rest are dead and their combs melted down. Ligurians, Hungarians and blacks suffered alike. I have had experience enough to know there is foul brood, *and* foul brood—get the right (or rather *wrong* sort) and salicylic acid is of no use. John Hunter.

5 Eaton Rise, Ealing, England, May 17th, 1877.

I wintered on summer stands, with no protection, and have lost fully 60 per cent. Wm. Payne.

Spencer, Medina Co., Ohio.

Our bees have wintered very well, as the winter in Germany was very mild and the bees have had some fine days for a cleansing flight. But the weather during the months of March, April, and even in May was thus dreadful, that our colonies did not thrive because many a bee perished in its search for water and honey. The fruit trees are now in full blossom but rain and cold weather do not allow the bees to gather honey or pollen, and so we shall not have so many and early swarms as in other years.

C. T. H. Gravenhorst.

Brunswick, Germany, May 19th, '77.

A WORD IN FAVOR OF THE LIGHT COLORED BEES.

We have never had such a demand or made as many sales of colonies and queens, as this spring; although our prices are higher than the average asked by others, we must say that we have all we can do so far, filling orders. The strangest thing about it is that our bees should be so much in demand, as they are those light colored ones, you know, that *some* breeders call lazy bees. It seems to us that many want just that kind, from the way the *cash* comes in. The fever for the "imported" will wear off after we all learn to keep our colonies in good condition, and not keep dividing them merely because they are so gentle and easy to handle. Is not that the trouble to some extent, friend Novice? A colony of cross hybrids *generally* have their *own* way, are not divided, and tinkered to death; hence the great amount of honey they gather, more than those lazy light colored bees we *read* of.

We confess that we keep bees for the *dollars* and *cents* as well as pleasure, and so long as our yellow pets continue to do as they have done in the past, *we* really can not say aught against them.

J. M. Brooks & Bro., Elizabethtown, Ind.

I have never had better success with my bees than this year. The yield is simply astonishing, and as a consequence I am devotedly attached to my pets. Am considered by half the town to have bees on the brain; nevertheless, I never hesitate to explain and exhibit the mysteries of the bee hive to all my country friends, whose astonishment and keen appreciation give me the greatest satisfaction. I am a disciple of Bro. Moon and for a time was a contributor to his Journal, but business cares prevented me from being as regular as I desired. I have Italianized my stock from the progeny of one of Mr. Moon's celebrated "Albinos" so called. No matter, however, what they are called, no better blood exists in Georgia.

H. J. Peter, Macon, Ga., May 31st, 1877.

The white fdn. rec'd of you last year, I put in upper story this season. The bees worked it out beautifully and filled it with honey. I was proud of it, showing it to all my friends and thinking, what is there that man can not accomplish in the world of art? God created all and then gave man "dominion" over all. But yesterday, I found from tenderness and weight, it had drawn down against the bottom of the frames and made a sag just above. The natural combs are all right. Neither were they as thick as the natural comb. I mention this because I thought you would like to know.

H. C. Hersperger, Keene, Ky., June 6th, '77.

Almost all specimens of wax will sag more or less, but the white worse than the yellow. Had you cut your sheets so that the comb when finished would have not quite touched the bottom bar, we think you would have had none of the warping. A half inch space at the bottom usually suffices, but ¾ is safer as a general thing. We want all our combs fastened to the bottom bar, but they should not strike it before they are finished. We can not discover that it makes any difference which way the fdn. is put in the frame.

INTRODUCING QUEENS.

You say that before you liberate a queen, after being caged for 48 hours, you see if the bees are good to her, and if they are not, you still leave her caged until they get good to her. Well, what I want to know is, how do you tell when they are good to her?

Wm. T. Seal, Chadd's Ford, Pa., June 11th, '77.

If the bees are clinging tightly to the cage, knotted together, and making that peculiar hissing noise that plainly indicates to one who is used to it, the presence of a strange queen, it will not do to release her. If, on the contrary, they are clustered around the cage about as they are usually seen around the queen on the combs, caressing her with their antennæ, and offering her food, it will be safe to let her out, even though she may have been caged only an hour, or perhaps not at all. A few days ago we got an imported queen from Dadant by mail, and as our customer was in a great hurry for his colony, we decided to try, or rather to run the risk of letting her out at once. The hive was opened very quietly without any smoke, and when the bees—very cross hybrids—had become tranquil, a comb was lifted out and placed against a post securely that we might have both hands to work with. Smoker was right at hand, in good trim, and the queen was then allowed to crawl out of the cage onto the comb of brood. They approached her, offered her food, and as soon as she was walking quietly about on the comb, the frame was returned to the hive. In about an hour, she was hunted up again, and once more after about 5 hours. As eggs were found in the comb the next morning, the hive was shipped.

When honey is coming in daily, perhaps 3 queens out of 4 could be safely released in the same way, and it is quite likely that hundreds of queens are caged 48 hours that could have been laying all the time just as well or better; and I should feel much safer in letting a queen loose among the bees in this way, than in caging her the usual time and then letting her out without paying any attention to the behaviour of the bees. The colony above mentioned had been queenless 5 days. The cells were all torn down in a few hours after the queen was put among them.

Our Homes.

Whatsoever thy hand findeth to do, do it with thy might.—Ecclesiastes, 9; 10.

HOW TO MAKE MONEY.

"HO!" says some one, "As far as that is concerned, we know how very well already, if you mean simply that we are to work hard to get it." I do mean that you shall work hard, not that you shall labor with your hands alone, but that you shall use all the powers God has given you; that instead of exhausting any one of them, you shall give a healthy exercise to them all, and have them grow and develop healthily. For many years, I have been employing hands in a manufacturing business, and while I made it a study to see how I could get good work done cheaply, I hope I have also studied the traits and dispositions of those about me, with a view to their own good. I have employed mostly young people—boys and girls, and as ours is not a manufacturing town, I have always had more applications for places than I could by any means use. Under the circumstances, it would have been many times, much easier for me to have given places to only such as were quick and skilful, than to have taken much time and pains with some who seemed in some respects unfortunately unfitted for the work to be done.

Shall we always purchase where we can purchase cheapest, and employ such hands as will give us the best labor for the money? Some may say that the most profitable people are not always pleasantest to have round, but that is not the point either; shall we always choose to deal with those who are pleasant and profitable, or in other words shall we consider our own comfort only? I do not know but I am getting into rather deep water, for very likely I shall before getting through, display some of my own selfishness, which although it may be very plainly apparent to my friends, perhaps I shall not see at all.

Every one has his peculiarities and distinctive traits, and almost every one has a peculiar adaptation for some one thing or another; almost every one has also faults or infirmities that render them unfit for certain duties. There are people whose services are worth four or five dollars a day in almost any kind of business, while there are many more who are scarcely worth fifty cents a day. Do those work so much harder who get the largest price? I do not think it is so much their working harder, as it is their bringing into play all their faculties, and applying their whole mind to every little detail of the work they are doing. Now who do you suppose enjoys life, or rather enjoys his work most, the person who works for fifty cents, or the one who has several dollars a day? I think unquestionably the latter, if we except those who are injuring themselves by working too many hours in a day, or are overstraining some particular faculty, or something of that nature. It is a pleasure, to exercise healthfully, any of the faculties or talents given us, and to feel that some power we hardly knew we possessed is growing and developing, is one of the keenest pleasures I know of. I have at different times in life worked for 12, 14, and sometimes even 16 hours a day, but after once losing my health and afterwards regaining it, I feel pretty sure that 10 hours a day is as much as any one should devote to really hard labor. I do not know but I had better say labor for some one else, and especially indoor labor. It is well known that those who are passionately devoted to some of the open air industries such as fruit raising, gardening, and even bee culture, can labor hard from sunrise until sunset, and thrive on it; but it can scarcely be expected that one who hires out by the day or month, to some one else, will have that enthusiasm that seems in a measure to prevent fatigue, and the consequences of working too many hours.

Is it possible for us all to earn four or five dollars a day or something near it? I think it just as possible, as it is for you to have the fastest horse in your community—you have only to pay the price. "But we hav'n't the money?" I have no doubt but that you may earn the money any one of you, but some of you would have to work much longer than others. *If you are willing to pay the price* you can almost any one of you, command high wages for whatever you may be doing. Nay, farther, you can have work brought to you, without your taking any trouble to search for something to do. I mean this for women and girls, as well as men and boys, for I have had experience in employing them all, and I know full well, how eagerly real worth is sought out and bought at high prices.

Very likely there will be many who are inclined to argue, and disagree with me on this point, and who will insist that they have not the natural talent, &c., &c., but I feel sure that the great trouble is that you are unwilling to pay the price, rather than that you are in any way incapable, or not possessed of the wished for abilities. If you have but one arm, you certainly have difficulties to work against, but the loss of an arm is not to be compared with objectionable habits that very many possess who have two good arms; you can still have the high wages, if you will pay the price.

I will try to point out to you the way in which the price is to be paid, judging principally from my past experience. One very important thing in the commencement, is to become impressed with your own need of improvement, for one who thinks he is already ahead of the rest of his fellow beings, that no one appreciates him as he deserves, is in a very bad frame of mind indeed, to get better wages. If you, on the other hand, think you are getting all you deserve, or perhaps a little more, you are on very good ground. Should you feel like asking your employers if they could not advance your wages, there should be no harm at all in your doing so, providing you are willing to have them tell you just where you are lacking, and need improvement. I believe employers as a general thing will be very glad to talk over your mutual relations, when you come to them in that way.

Perhaps it may be well to state here, that I consider *everybody* employed by some one else. You, my friend, are my employer and I try to think you pay me all I deserve; when

I am in the right frame of mind, I feel that you are all kinder and more liberal, than I merit, and then I go to my work with fresh vigor, and try to serve you better.

We are all working for somebody; that somebody may be mankind in general, it may be the government, it may be those whom we expect to buy our produce, it may be a railroad company, or some one who pays us so much pėr hour to help him serve somebody else. If we are earning very much more than we get, somebody else will soon find it out, and we shall get an offer of better pay. If we are getting better pay than we deserve, somebody will offer to do the work that we do, cheaper, and then we shall have to work for less, or look up another situation. Now if we are ready to do all this pleasantly, to let the law of demand and supply regulate this matter of labor just as it does other commodities, we have got a very good start. "Knowledge is power," is a very good motto for one who desires better wages, and he should set to work learning all about the business he is engaged in. If he is a worker in wood, let him learn all about the different kinds of wood, and how they behave under different circumstances. A bee hive will stand the weather vastly better if the heart side of the lumber be put toward the sun, and yet a carpenter of many years experience was surprised when told he must be sure to observe this point. On the same day a builder of wooden cisterns was employed to put up one in our cellar, and finding he could get no iron rivets in our town, he without my knowledge substituted copper ones saying he thought they would hold just as well. I afterward found our engine boy who is only 15, remonstrated in vain at the proceeding. The consequence was that after the first rain, which came in the night, the swelling of the pine staves sheared the copper rivets off as if they had been lead, and our cellar was flooded with water. Copper is a very pretty, nice and useful metal, but has not in nearly as great a degree as iron, the properties demanded for standing such a side strain as would be put upon the rivets. A man who has learned all these properties of wood and metals, would be well worth 25 cents a day, more than one who has not. The same point comes up in regard to the use of tools. A man was employed to overhaul our engine, and in doing so he broke two wrenches. Was the fault in the tools? One of them had been broken and repaired, but for all that, a really fine, keen mechanic would have taken a good look at it before using it in the place, and would have decided by inspection how much strain it would do to put upon it, and if it would not do the work it would have been laid aside uninjured. It was a small nickle plated wrench, that I valued very much. It is a frequent thing for inexperienced mechanics to twist the heads from bolts, or to break off screws where it is very expensive and laborious to get the broken part out, yet they frequently say it was no fault of their own, "it had to be done." This I believe is a mistake. There are ways of removing bolts and screws in almost all cases, and that too without injury. One who is ambitious, should make himself master of all these little arts, and if he is careful not to break anything, he will very soon be sought after, and offered good pay. Whatever may be the temptation, do not boast of your skill, but let your work do all the talking.

Beware of accidents; they may be trifling in themselves, and seem of no great moment, and at first glance you may not see that the fault was in any way your own, yet a careful examination into these matters will show that they could almost always have been avoided. Accidents and breakages tell fearfully at the end of a year in an establishment where many hands are employed. Even if the broken things are promptly paid for, that is but a small part of it, for it causes loss of time and delay in replacing, and it very seldom answers exactly the place of the missing thing. Some people seem to be continually dropping things and a young friend whom I am very anxious to have make progress, seems at times to have a knack of letting every thing slip that her fingers touch. It is true that she seldom breaks anything, but when things go rolling about the floor, it takes time to gather them up, and for the rest to look at it and laugh, and in debating what wages I could afford to pay her, I felt it a duty to take this into consideration. There are others who have no fault of this kind, yet have others just about as bad, or even worse. One will work so slowly, that a person of quick and active temperament would "go crazy" to use a common expression, just to look at him. I once saw a couple of carpenters who had been employed at a very low price, and one, to stop and look at them, would suppose they were trying to see how slowly they could move, and have it called work. Evidently the only event they looked forward to with pleasure in this world, was the call to dinner. Perhaps nothing is more trying to me, than to have hands apparently bent on nothing else but to pass away the time in some way, until it is time to stop work. Others there are who have none of these habits, but who are disorderly; will scatter their work on the floor and have it stepped upon, will make a litter of all the remnants, even when desired to take time to put them away in the proper baskets, and who will leave their tools and materials just where they happen to get done using them, in spite of all that can be said—beg pardon, I did not quite mean that last, for it will not quite harmonize with my closing up; perhaps I should say rather, in spite of repeated requests to do otherwise. Another thing that spoils the value of one's services, is getting vexed or impatient with one's work. I certainly know something of it, for it perhaps more than anything else, mars my value as a mechanic. I do not get angry with my work as I did once, but I defeat myself greatly, by being in too great a hurry, to do my work well. Very skilful people almost always, work slowly and deliberately. Not with the slowness before mentioned, for the most skilful, are the busiest, they work with brains as well as hands, but they take ample time to do each part of their work thoroughly and completely. Taking in all the points, making no mistakes, and forgetting nothing. One who quarrels with his tools, who gets angry at his work, and indulges in exclamations such as "there! see if you won't go down," "break then! you sinner" as he strikes a tremendous blow with his hammer, or throws his tools across the shop if they do not please him, is certainly worse than a man with one arm, if he can not rid himself of such a temper.

There should be no "blasting," nor "blasted hopes," for a good workman is seldom disappointed or surprised at the way his work behaves. His nails do not split out, because he does not undertake to drive them where he is not sure they *can* be driven, and when he undertakes to drive a nail, he sees at a glance what kind of a nail he holds, his hammer is one that is not loose in the handle, is neither too light nor too heavy, and in his practiced hand it does exactly the work he wishes it to do. Perhaps boys are much more inclined to get nervous and fidgety with their work than are girls, and in these days of young America, when many are ambitious to do a good job without very much showing, there is very much of a liability to disappointment and disgust with mechanical work. Take my advice boys, and when you find out what you *can not* do, instead of giving up, get the best mechanic you know of, to show you, and practice patiently after his showing, keep trying, and study the subject in all its branches. Study saws, study hammers and nails; whenever you see a box nicely made, look it over carefully. When you go into the stores, look at the small light boxes goods are put up in, and do not rest satisfied until you can make a neat job of everything about a bee hive, even if it takes you weeks to do just one. The last thing perhaps I shall talk of this month, is

ACCURACY,

and the subject is of so much importance that I have given it a heading by itself as you see. What *can* I say to the boys and girls, aye and to the older ones too, to make them more careful to be accurate? Great numbers of girls come to me for work, and they are perfectly willing to work for fifty cents per day. The work is light, and would be pleasant and easy, yet I dare not trust them to undertake it, because they would not be accurate. They would forget, or be thinking of something else, and rather than take the responsibility of keeping a constant watch on them, we choose to pay from one to two dollars per day, just to get somebody that will be careful. An order came for frames from away down in Mississippi. The hand who put them up forgot to put in the side bars, and after our distant customer had put his money safely in our hands, and paid the expensive express charges to such a distant point, he had no frames to use in his hives after all. He sent a telegram at once asking me to pay for it as well as the express charges, and I think it was right that I should do so. Now all this expense, delay and trouble came from—I do not know positively, but I rather think, from talking to some of the other hands while the work was being put up. Had the one who did it, said mentally, "There are the top bars, and no mistake, for they have the grooves in them for the comb guides, and these are the side bars, for they are grooved across the ends, and there are just twice as many of them as of the top bars, here are the bottom bars for they are not grooved at all. These are the corners, and these the comb guides and everything is certainly just as it should be."

Now although it has taken some time to tell this, it can be gone over in the mind, as fast as the hands can possibly travel, but the eyes must be on the work, and the tongue still. Is this too severe? It all rests with you my friends; if you are unwilling to pay the price, you must be content with ordinary wages.

Many people excuse themselves for inaccuracy, by saying the fault belonged to some one else. Quite a number of our May journals were reported as being folded wrongly, the first page being on the leaf next the last. No one could tell how it came so. As the June No. was being mailed, I picked up one at random, and found it in the same predicament. Three more were opened, and found the same; of course the whole lot were overhauled, and I fear the girls who folded and sewed them were overhauled a little roughly too, for it is a rather serious matter to have hands who pay so little attention to their work that they do not know whether the books they are making are readable or not. I presume each one of them feels sure *they* did not do it, but for all that, they will probably keep a sharp lookout for more such mischief, and as the fault all really rests on myself, *I* shall try to look sharp too, or you my friends will be obliged to cut down my wages. If you do, I shall not blame you, but will try to think I deserve it.

Continued next month.

DEPOSITORY OF
Blasted Hopes,

Or Letters from Those Who Have Made Bee Culture a Failure.

LAST fall I had 56 swarms of bees in good condition, have now but ten. Seven packed in chaff and left on summer stand came through, but were very weak in numbers; one dwindled away until only about one-half pint of bees was left, then swarmed out and the queen got killed. The six left, I think will succeed. Ten left on summer stand with chaff pillows over frames, all dead; some of them lived till the last of April. Four swarms buried, all dead when I unearthed them the forepart of April. Thirty-five swarms I put in bee cellar Nov. 14th, and gave them a fly three or four times in the warm days of Feb., but they got caught out in a big snow storm the first of March; some hives were entirely covered with snow. When I could get them in again, I found 16 of them dead, and the rest have since dwindled to four stocks. My hopes are blasted. AVERY BROWN.

P. S.—Dr. Maxon, of Whitewater, Wis., put 84 swarms in his cellar under his dwelling house last Nov., took them out April 10th, gave them no fly during that time. I saw several of his hives opened April 14th, no mould, no dead bees on bottom of hive—bees plenty and honey also—had done nothing to them only set them out till I saw him open several hives—every one of the said 84 appeared in first rate condition. He uses one story Langstroth hives with 8 frames; runs for box honey almost exclusively. AVERY BROWN.

Delavan, Wis., May 15th, 1877.

Many reports seem to strengthen the idea that it *is* a disease—that our bees may winter beautifully one winter, and die badly the next, with precisely the same treatment.

My bees wintered poorly. I had too many in a small place; 103 in a cellar 12x14. The cellar bottom was about 1½ inches deep with dead bees this spring. I set them out April 12th. Ninety-three were alive but some had only a few bees and they have since dwindled down to less than fifty, mostly by swarming out and joining other swarms. I began to think I would have to be put into Blasted Hopes department, but if they behave now, I will try to build them up. E. A. SHELDON.

Independance, Iowa., May 21st, 1877.

We have hunted over all our letters, and the above is the best "blasted hopes" we can find. If it is a mistake we beg pardon.

Notes and Queries.

IN some of my hives I find that the combs of several frames are united together, so that I cannot lift them out separately. How can it be done without killing some bees, if separated with a knife or other implement? And how can this welding together of the combs be prevented.

Though I never yet had but black bees (all my colonies being descendants of a single black one), I find among them some bearing the marks of pure Italians —three yellow rings, and some those of hybrids—one or two yellow rings. There are no Italians nearer than four miles from my place, as far as I know. What may be the cause of these marks?

Is mouldy comb of any value except for wax? Can it be used for breeding purposes? J. BALSINGER.

Highland, Marion Co., Ill., June 9, 1877.

P. S.—I have found that the blossoms of the persimmon are much visited by bees; they must be rich in honey.

[Drive the bees entirely from the attached combs by smoke and shaking, then with a thin knife cut and straighten, and afterwards beware about placing them too close to each other. It takes time, but the worst combs can be made level and smooth, by care and patience.

The Italians very often hybridize stocks four or five miles away; it may be that they have mixed with the bees in the woods nearer than you imagine, and it may be that the drones and queens meet when located at that distance.

Put your mouldy combs one at a time in the centre of a strong stock of Italians; examine them next day, and you will think some sleight of hand has been at work.]

I had one swarm of bees to leave its hive in April; it had plenty of honey and pollen, and about two quarts of bees. Another left its hive May 10th; it had no honey but plenty of young bees; about the same number as the first one. Explain.

G. W. EDMUNSTON, Slagle P. O., Mo., May 14, 1877.

[The first one swarmed out probably because it was weak; the second one because it was out of honey. The latter is the most frequent cause, perhaps of all, and they often abscond, seemingly, because they are *nearly* out.]

I am infatuated with this sample section box you sent me. I had it in running order, foundation and all, in less than a minute. Your plan of fastening is a great invention. W. C. GRIER, Lamar, Mo., June 14.

[Very glad indeed are we to have earned your approval, and now to illustrate how widely people differ, we will give an extract from one who received precisely such a sample box.]

Your frame is like the rest of such wares that I have seen; too frail, rough, and carelessly made. When put up it is out of shape. JAMES HEDDON.

Dowagiac, Mich., June 19th, 1877.

The hybrids bought of you take the lead in our yard; they are splendid workers. White clover just opening. Ours have been working on the grape for a week. J. W. BARCLAY, South Oil City, Pa., June 15.

[There! don't you see what fun it is to sell hybrids?]

"Honor to whom honor is due." See GLEANINGS, June No., page 161. After that date I found one colony dead, cause, neglect on account of other business, leaving me 65 colonies. About five years ago, a swarm came out (I was not at home) and settled; my wife supposed they would go back, as the old queen's wing had been clipped, but the old queen had been superseded and a lot of young ones reared. She was not in a hurry about hiving them and they went to the woods, this is the amount of our loss since I commenced keeping bees on improved principles. E. LISTON, Virgil City, Mo., June 6th, 1877.

FRIEND OLDT of New Berlin, Pa., has sent us a bee-hiving apparatus. The plan is to have the colony on a platform so nicely balanced that when the swarm leaves, the hive sinks enough to close the entrance. As the bees have been previously taught to go out and in through an empty hive, they return to it as soon as they miss the queen. She is kept from going by a queen yard similar to Quinby's. The machine will work without doubt; if it does not as it is, it certainly can be made to do so. Now then, will it pay? We cannot even make a trial of it, without setting apart a colony and letting it get filled up in a way that would cost us perhaps $5.00, and very likely it would not swarm then, for not one colony in ten sends out a swarm when supplied with sections filled with fdn. We cannot make a machine for every colony, for they cost several dollars each, and the inconvenience of having our hives all encumbered in this way, would be out of the question. Why will you, my friends, waste your money in patenting things so impracticable? We have returned the machine, paying all expenses, and we are willing to do this so long as there is any probability of getting hold of anything that is really valuable.

THREE SIZES

DIRECT DRAFT SMOKERS.

Extra large 2½ inch tube......	$1 75
Per mail	2 00
Standard 2 inch tube	1 50
Per mail	1 60
Small 1¾ inch tube............	1 00
Per mail	1 25

These smokers differ only in size.

T. F. BINGHAM,
7-8 Abronia, Mich.

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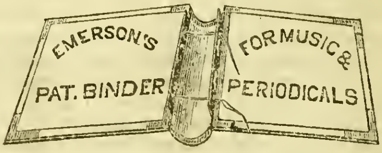


You cannot look over the back No's of GLEANINGS or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said—"Dear me what a bother—I *must* have last month's Journal and it's no where to be found." Put each No. in the Emerson Binder as soon as it comes and you can sit down happy, any time you wish to find any thing you may have previously seen even though it were months ago.

Binders for GLEANINGS (will hold them for four years) gilt lettered, free by mail for 50, 60, and 75c, according to quality. For table of prices of Binders for any Periodical, see Oct. No., Vol. 2. Send in your orders. A. I. ROOT, Medina, O

ITALIAN QUEENS and Bees for sale, at the Italian apiary of
3d E. E. SHATTUCK, Los Angeles, Cal.

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our tenth edition circular found in April No., Vol. V., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required.*

Canada postage on *merchandise* is limited to 8¾ oz., and nothing can be sent for less than 10c.

BEES.

Bees, full colony amply provided for winter, in our new two story, chaff hive (described Nov. and Dec. No's .. '76), tested queen from imported mother, safe arrival guaranteed.. (Lawn hive $1 more.)	$15 00
The same in a 1 story Simplicity hive	13 00
The same in old style L. hive with portico, etc	12 00
The same with hybrid queen	10,00
Not provisioned for winter (hybrids in old hive)	7,00
Two frame nucleus with tested queen	5 50
The same with dollar queen	4 00

For an imported queen in any of the above, add $5,00

We think we can prepare bees for shipping safely any month in the year; when we fail in so doing, we will give due notice.

0	Binder, Emerson's, for GLEANINGS	50, 60, 75
	Balances, spring, for suspended hive (00 lbs)	8,00
10	Blocks, iron, for metal cornered frame making	15

One of the above is given free with every 100 frames, or 1000 corners.

	Barrels for honey, $2,50; waxed and painted	$3,50

Buzz-saw, foot-power, *complete*; circular with cuts free on application. Two saws and two gauges included. $35 00

0	Buzz-saws, extra, 6 in. 1,50; 7 in.. 1.75; 8 inch..	2 00
60	Buzz saw mandrel and boxes complete for 6 inch saws	5 00
	The same for 7 and 8 inch saws (not mailable)..	8 00
	Comb Foundation Machines complete....$30 to	100 00
	Comb basket made of tin, holds 5 frames, has hinged cover and pair of handles	1 50
60	Chaff cushions for wintering	30
25	Chaff cushion division boards	20

Half price without the chaff, and postage 5 and 9c.

20	Candy for bees, can be fed at any season, per lb.	17
20	Corners, metal. per hundred	75
20	" " top only	1 00
15	" " bottom, per hundred	50

On 1,000 or more a discount of 10 per cent. will be made, and on 10,000 25 per cent. The latter will be given to those who advertise metal cornered frames.

	Corners. Machinery complete for making	250 00
10	Clasps for transferring, package of 100	25
0	Cards, queen registering, per doz	10
2	Cages " all of metal	10
2	Cheese cloth, for strainers, per yard	10
12	Duck, for feeding, and covering the frames—bees do not bite it—per yd. (29 inches wide)	20
	Extractors, according to size of frame $7 50 to	10 00
	" inside and gearing, including honeygate	5 00
	" Hoops to go around the top (per doz. $5.)	50
7	Feeders, 1 q't, tin, can be used without opening the hive, in warm weather—neat and simple	10
25	The same, 6 qts, to be used in upper story...	50
4	Frames with Metal Corners	05
5	" " Sample Rabbet and Clasps....	10
18	Galvanized iron wire for grapevine trellises per lb. (about 100 feet)	20
0	GLEANINGS, Vol's I and II, each 75c., Vol IV	1 00
0	" Vol. III, second-handed	2 00
0	" first four volumes neatly bound.....	5 00
0	" " " " unbound	4 00
50	Gearing for Extractor with supporting arm..	1 50
25	Gates for Extractors tinned for soldering...	50

SIMPLICITY BEE-HIVE.

One body and 1 cover in the flat, as sample to work from—one sample frame included	80

One story hive for extractor (body 50c—2 covers 60c—nailing and painting 20c—quilt 25c—10 frames 60c—crating 10c) ... 2 25

One story hive for comb honey is precisely the same as the above, substituting 2 frames of sections for 4 metal cornered frames ... 2 25

The above 16 sections will be fitted with fdn., and starters ready for the bees, for 15c, and the tin separators added for 10c, making whole complete ... 2 50

The above two hives contain everything used in a 2 story hive. We simply use another body filled with frames or sections, for a 2 story hive.

For a 2 story hive for the extractor, add (to 1 story 2 25) body 50c—nailing and painting 10e—10 frames 60c—crating 5c, making complete 2 story containing 20 frames ... 3 50

For a 2 story hive for comb honey add (to 1 story 2 25) body 50c—nailing and painting 10c—6 frames of sections 78c—1 metal cornered frame 6c—crating 6c, making complete 2 story containing 7 frames and 64 sections ... 3 75

If filled with fdn. starters 60c—if also filled with tin separators 40c, making $4 75, if two latter items are wanted.

An upper story filled with sections, fdn. starters and all ready to be set over any L. hive ... $2,75

To prepare the above hives for winter, put in place of the 2 outside frames chaff cushions, price 20c each, and a thick one on top 30c.

Iron frame to gauge size of above hives, and to hold them true when nailing, size 20¼x16 inside.... 75

	CHAFF HIVE FOR OUT DOOR WINTERING, 10 frames below, and 14 frames or 80 section boxes above, well painted and finished complete ....(Lawn hive $1 more.)	$5 00

If filled with fdn. starters and separators, $1.25 more.

These hive, if supplied with stores, will, we hope, need no attention whatever, from the time honey ceases until it comes again the next season.

	Two frame nucleus hive, neatly painted	50
0	Knives, Honey (½ doz. for $5 25, or $5 by Exp.)	1 00
	" " curved point $1.15..per ½ doz	6 25

Labels for honey, in blue and gold, dark bronze and gold, or in white printed in two colors, furnished with your own address, and source from which the honey was gathered, already gummed, post paid by mail, (no order rec'd for less than 250). At these low rates, the full number mentioned *must* be ordered without the change of one single letter of the type 1000. $3,25; 500, $2,40; 250, $1,80

0	Lithograph of the Hexagonal Apiary	25
	Lamp, Nursery for hatching queen cells as built	5 00
0	Larvae, for queen rearing, from June to Sept.	25
15	Microscope, Compound, in Mahogany box...	3 00
0	Prepared objects for above, such as bees' wing, sting, eye, foot, etc., each	25
0	Medley of Bee-Keepers' Photo's, (150 Photo's)	1 00
0	Magnifying Glass, Pocket	50
0	" " Double lens, brass, on 3 feet	1 00
7	Muslin, Indian head, for quilts and cushions per yard, pretty stout, but not good as duck.	10
	Parafine, for waxing barrels, per pound....	20
0	Photo. of House Apiary and Improvements..	25
2	Rabbets, Metal per foot	02

SECTION BOXES IN THE FLAT, PER 1,000.

Any dimensions not exceeding 2x5x5	10 00

The above is 50 cubic inches; for larger sizes add 10c per 1,000 for each additional cubic inch or fraction of an inch, outside measure. Extra prices for less than 500.

Just right to fit in L. frames, 2x4¼x4¼	9 50
Sample by mail with fdn	5

If the grooving for holding the fdn. is omitted, 25c less per 1,000. Sections weigh from 7 to 10 lbs per 100.

10	L. frame made 2 inches broad to hold 8 sections	5
25	The same with 8 sections	13
25	The same furnished with fdn. starters all ready for the bees	20

Adding tin separators to either of the above will increase the price 5c, and the postage 6c.

6	Section boxes, fancy, hearts, stars, crosses, etc. each	5
3	Sheets of duck to keep the bees from soiling or eating the cushions	10
	Salicylic acid, for foul brood, per oz...	50
0	Scissors, for clipping queen's wings	40
18	Seed, Alsike Clover, *raised near us*, per lb...	25
18	" Summer Rape. Sow in June and July.	15
0	" Chinese Mustard, per oz	25
18	" Mignonette per lb. (20c. per oz.)	1 50
18	" Mellilot, or Sweet Clover, per lb	1 00
18	Silver Hull Buckwheat (peck by express, 75c)	10
16	Smoker, Quinby's (to Canada 15c extra)	1 50
5	" Doolittle's	25
10	" Bingham's	1 50
2	Tacks, Galvanized	10
5	Tins for fastening glass in section boxes, 1000...	25
5	Thermometers	40
0	Veils, Bee, with face of Brussels net, (silk)..	75
0	The same, all of tarletan (almost as good)...	50
	Wax Extractor	3 50
	Copper bottomed boiler for above	1 50
5	Wire Cloth, for Extractors, tinned, per foot..	15
2	" " Queen Cages	12

Above is tinned, and meshes are 5 and 18 to the inch.

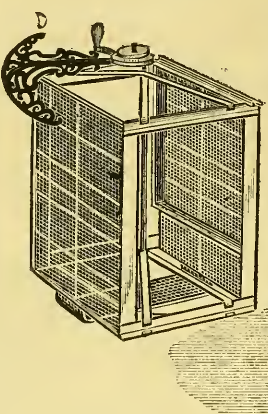
3	Painted wire cloth, 14 mesh to the inch	7

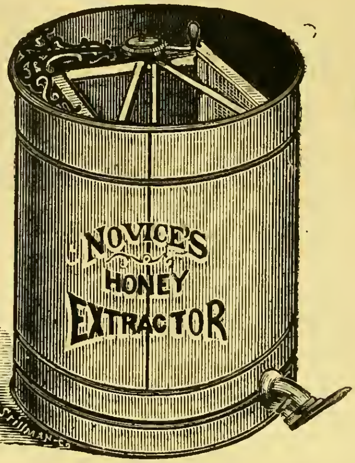
All goods delivered on board the cars here at prices named.

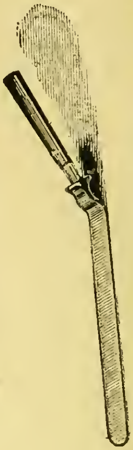
☞ We will pay $1.50 cash, for Vol. III. A. I. ROOT.

PRICES OF EXTRACTORS:

For Gallup frame, $7,50; American frame $7,75; Adair frame, $8,00; Langstroth, $8,00; Quinby, $9,00. No knife included at these prices. All the above sizes kept constantly on hand ready to ship.







Our Honey Knife, Price $1,00, post-paid, is made of fine steel, nicely finished, with a thin keen edged blade that needs no hot water or any such "fussing" to make it uncap nicely.

ADVERTISEMENTS.

Advertisements will be received at the rate of 20 cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

THE BEE-KEEPERS' MAGAZINE, an illustrated monthly journal of 32 octavo pages, devoted exclusively to bee-culture; edited by ALBERT J. KING, containing contributions from Mrs. Ellen S. Tupper, and experienced bee-keepers in America and Europe. A large space is devoted to beginners, giving useful information just when it is most needed throughout the year. Terms, $1.50 per year. The Bee-Keepers' Text-Book in *German or English*, and the Bee-Keepers' Magazine one year $1.70. A 64 page pamphlet (price 50c) containing a beautiful life-like **Chromo** of **Honey-Plants** and **Italian Bees** in their natural colors, with prize of Mrs. Tupper, Queen rearing by M. Quinby, instruction for beginners, etc., sent *free* with the Magazine, on trial, 4 months for 50 cents. Agents wanted—cash commission and permanent employment. Address

A. J. KING & CO., 61 Hudson St., N. Y.

Every Bee-keeper should subscribe for it.

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In the Standard Langstroth frame at 25 cents each. My former partners having quit the bee business, we have a quantity of good combs at above price.
4tfd Address F. T. NUNN, Peru, Huron Co., Ohio.

ITALIAN BEES.

Full colonies $10,00 each; tested queens $3,00; warranted queens $2,00; not warranted $1,00. Queens bred from imported mothers and selected home bred stock. Sent by mail at my risk. SWARMS shipped in Langstroth hive and one frame of comb $7,00. Langstroth hives single one $2,00. Lots of 5 to 10 at $1,50 each—cap 7 inches, one coat of paint, no portico.

T. G. MCGAW, Monmouth.
-9d Lock Box 64. Warren Co., Ill.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 10c. each insertion, or $1.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 10c. each insertion, or $1.00 per year.

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, safe delivery, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay, as may be unavoidable.

Bear in mind that he who sends the best queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If wanted by mail, send 10c. extra.

*C. C. Vaughan, Columbia, Tenn.	3-8
*Wm. W. Cary, Colerain, Franklin Co., Mass.	3-2
*J. Oatman & Co., Dundee, Ill.	1-12
*E. W. Hale, Wirt, C. H., West Va.	6-6
*J. M. C. Taylor, Lewiston, Fred. Co., Md.	1-12
*Dr. J. P. H. Brown, Augusta, Ga.	1-12
*Albert Potter, Eureka, Wis.	1-12
*Wm. J. Andrews, Columbia, Tenn.	2-2
*Aaron J. Weidner, Bigler, Adams Co., Pa.	4-9
*J. H. Nellis, Canajoharie, N. Y.	5-11
Miss A. Davis, Holt, Ingham Co., Mich.	5-4
D. A. Pike, Smithsburg, Wash. Co., Md.	5-6
*W. A. Eddy, Easton, Adams Co., Wis.	6 11
J. B. Dines, Libertyville, St. Francois Co., Mo.	6-7
*T. G. McGaw, Monmouth, Warren Co., Ills.	6-9
*E. C. Blakeslee, Medina, Ohio.	6tfd
*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Columbia Co., Pa.	7-6

Bees for Sale.

We whose names appear below agree to sell a good colony of Italian bees with tested queen, in new one story hive, for $10,00. If in an old hive, $1,00 less. Safe arrival guaranteed.

A. I. Root, Medina, Ohio.

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
M. S. West, Pontiac, Mich.	6-5
Geo. W. Simmons, Newark, Del.	1-12
Isaac L. Parker, McMinnville, Warren Co., Tenn.	3-2
Thos. F. Wittman, Camden, N. J.	6-5d

TESTED QUEENS for $2.50, with 2 frame nucleus full of brood and bees $5.50, five for $25.00; all from imported mother. The same with a dollar queen $4.00.

E. C. BLAKESLEE, Medina, Ohio.

GLEANINGS IN BEE CULTURE

Devoted to Bees and Honey.

And Peace on Earth and Good Will toward Men.

PUBLISHED MONTHLY, AT MEDINA, OHIO,
BY A. I. ROOT.

Vol. V. August, 1877. No. 8.

To Many Inquiring Friends.

PATENT HIVES—WHAT FRAME OR HIVE TO USE—SHALL WE USE AN EXTRACTOR, OR RAISE COMB HONEY?—ITALIANS—THE BEE MOTH—SPACE FOR COMBS—FOUNDATION.

While I earnestly try to maintain a broad "charity for all, and malice toward none," and while I do not wish to take upon myself the responsibility of dictating a course for others, I feel it a duty to discourage with all my might, both by precept and example, everything in the shape of patented bee hives, or patents on anything pertaining to bee-culture. On the other hand I shall try to encourage every one to do all in their power to advance the common good of all. I do not believe the world "selfish and grasping," but have unlimited confidence in the disposition of our people to desire to pay for everything they get, and to reward those who work for them disinterestedly, when they once get a clear understanding of the matter. If you have made a valuable invention or discovery, give it to the people rejoicing that you have been enabled to contribute your mite to the common good, and in seeing others happy, and sooner or later, you will surely have your reward. *Nothing is patented in the shape of hives or implements, that we advertise.*

I recommend the Langstroth frame for everybody, and for every purpose whatever, in preference to anything else, and I have pretty thoroughly experimented with all shapes and sizes. There may be other forms that will give just as good results, but I do not believe there are any better. For all general purpose, I advise the Simplicity hive holding ten of the above frames. The hive is made of ⅞ lumber, and is 20¼ by 16 inches outside measure. The Langstroth frames as our gauges make them, are 17⅝ by 9⅛ outside measure. As the chaff hive is the same thing with an outer shell to hold the chaff that protects the hive from the winter's frosts, as well as summer's sun, no confusion can result from using both in the same apiary.

Produce just whichever pays best in your own market, and no one can tell so well as you, yourself, can by trying both; you can perhaps produce a nice article of extracted for about 15c., as cheaply as comb honey for 20c. You can produce thin, raw, unripened honey without any trouble for 10c. or less, but it will probably pay you best to give your customers an article as good in every respect as that found in the nicest comb honey.

If your hives are all full, upper story and lower, and the honey is still uncapped, put on a third one, and neither let your bees hang out idly nor swarm, if it takes another story still. When they get to crowding out, give them room if you have to sit up all night to do it.

The comparative advantages of the black or common bees and Italians, is a matter that no longer admits of discussion, and I must consider the very few individuals who write in favor of the former as belonging to that class of unfortunates who seem to delight in being contrary. If tons of honey are to be considered a proof, the matter has long ago been amicably settled in favor of the Italians.

The bee moth need hardly be mentioned now, unless it is to advise you to drive them out with Italians, for whenever they come into a neighborhood, the moths get out without any farther trouble or bother. This one feature alone, is enough to justify introducing Italian queens in place of the blacks.

The usual space allowed for brood combs is about 1 7-16 inches, but the matter is not at all important. They can be worked as closely as 1⅜, or as far apart as 1¾. For surplus honey we would have about 2 inches space from centre to centre of the combs.

Perhaps no one thing in bee culture, ever brought forth such unbounded tokens of approval, as has the comb foundation. All controversies are at an end and nothing now remains but to devise ways and means whereby the expense of its manufacture may be cheapened.

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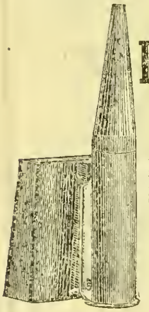
◆

We, in June No., (page 49) gave a letter of complaint about imported queens, but Mr. Camp writes that he did not intend to complain of either Mr. Dadant, or Shaw, but that he feared pure Italian queens could not be had, even in Italy. Be this as it may, the queens that come from Italy, are so much superior to those generally found here, that we certainly can not afford to do without them. The testimony in favor of them is so great, we shall have to be excused from publishing any more on the subject.



THREE SIZES
DIRECT DRAFT SMOKERS.

Extra large 2½ inch tube......	$1 75
Per mail....	2 00
Standard 2 inch tube....	1 50
Per mail....	1 60
Small 1¾ inch tube....	1 00
Per mail....	1 25

These smokers differ only in size.
T. F. BINGHAM,
7-8 Abronia, Mich.

Imported Queens Received Weekly.

One Imported Queen....	$7 00
Single Queens to old customers....	6 00

Special rates for larger quantities.
Safe arrival guaranteed. CH. DADANT & CO.,
8tf Hamilton, Hancock Co., Ill.

QUEENS.

Untested and unwarranted queens $1.00; tested queens $2.50. Queens to be sent during the months of August and September. Address J. SHAW & SON.,
8-9 Chatham Centre, Medina Co., Ohio.

P. S.—Nearly all the queens in our apiary were reared from an imported mother.

Home Bred Italian Queens,
Post-paid 75 Cents.

Estimates furnished on hives of all styles and finish.
8 R. FERRIS, Belleville, Essex Co., N. J.

CASH FOR BEES-WAX.

We are paying 30 cents per pound for yellow beeswax, in lots of from 50 to 5,000 or more pounds, delivered at Syracuse, or 31 cents, if exchanged for white wax. If you have any wax on hand, and can deliver it at the above price, please do so, and we will send you our check on receipt of the same.
ECKERMAN & WILL.
8-7 Wax-bleachers, Syracuse, N. Y.

COMB FOUNDATION.

Having purchased a machine for my own use I will furnish the fdn. in strips any length by 5 inches or less wide at 75c. per lb. if I can get the

Bees-wax Wanted.

I will pay 30c. cash for clean yellow wax delivered here. I refer to the Editor of this Journal.
GEO. M. DALE.
Border Plains, Webster Co., Iowa. 8-9

Round Honey Jars.

One pound, per gross....	$4 75
Two " " "....	6 75
Corks for above, per gross....	65

Larger sizes furnished if wished.
7-8 Address F. T. NUNN, Elyria, Ohio.

COMB FOUNDATION
45 to 55c. per Pound.
Warranted Pure Beeswax.
C. O. PERRINE, CHICAGO.
Send for Circular. 6-8d

Shuck's Universal Bee Hive

Is the most convenient; can be opened thoroughly in a few moments, has room at side for surplus boxes, and packing for winter; can be divided into several departments for queen-rearing, if desired; no useless rigging about it; hanging frames as easily lifted as you would pick up a stick; winters bees upon their summer stands *perfectly;* is cheap, and not patented. One hive complete, $8.00. When hive is wanted, send size of frames. Money in advance. Funds are only at my risk when sent by Draft, Money Order, or Registered Letter.
Address J. M. SHUCK, Des Moines, Iowa.

ITALIAN QUEENS FOR 1877.

Queens bred from Imported or home bred stock. Safe arrival guaranteed. Will send you every time just what you order.

Unwarranted queen....	$1 00
" " per doz....	11 50
Warranted "	1 50
" " per half doz....	8 00
" " per doz....	14 00
Tested " before July 1st....	3 50
" " after " "....	2 50
" " " " " 4 for....	9 00
" " " " " per doz..	20 00
2 frame nucleus (frame 11x12) and tested queen after July 1st....	5 00
5 same....	20 00
Same and unwarranted queen....	4 00
5 " "	17 00

2tf J. OATMAN & CO., Dundee, Ills.

COMBS.

In the Standard Langstroth frame at 25 cents each. My former partners having quit the bee business, we have a quantity of good combs at above price.
8 Address F. T. NUNN, Peru, Huron Co., Ohio.

REMOVAL.

The Brooks Bro's. have removed their Apiary *from* Columbus to Elizabethtown, Ind., and would be pleased to send you their new circular. Send for it before purchasing your queens or bees.

Address, J. M. BROOKS & BRO.,
4-9 Elizabethtown, Ind.

BEFORE PURCHASING

Supplies for your Apiary, send a Postal Card for our Price List of Hives, Frames, Sectional and other Boxes of any desired pattern, Comb Foundations, Metal Corners and Tested and Untested Queens from Imported mother.

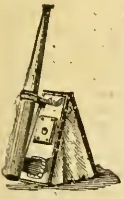
J. C. & H. P. SAYLES,
3-8 Hartford; Wis.

THE
British Bee Journal,

Is a large, beautifully printed, and profusely illustrated MONTHLY; clear type and fine heavy paper.

It is conducted by CHARLES NASH ABBOTT, Hanwell, W., London, England. Annual subscription, half-a-guinea.

We will send it with GLEANINGS and pay all postage for $2.50.



Improved Quinby Smoker.

Quinby's "Bee-Keeping Explained." Box material for as practical a box as can be made. Glass cheaper than ever before. Queens, Hives, Colonies, Extractors, Hive Clasps, Bee Veils, etc.

Send for Illustrated descriptive Circular.

L. C. ROOT,
Mohawk, Herkimer, Co., N. Y.
4tf

I own latest and best machinery and promptly supply

Pure Beeswax Comb Foundation.

at the following low prices: Made from yellow wax, 70c per lb.; white wax, 90c per lb. Sheets 12 inches wide or less and as long as wanted. Five cells to the inch and 4 to 8 square feet to the pound. Packed in light wooden boxes—paper between the sheets. Sheets cut to any desired size. Ten per cent discount on 50 lbs. or more. Wax delivered here, will be worked up for 35c per lb. or for half the wax. Highest cash price paid for pure wax delivered here. Freight or Express charges to be paid by the purchaser. By mail. add 25c per lb. to above prices. Order early before the summer rush. Sample by mail, 10c.

Enlarged circular, giving prices of Queens, Bees, Hives, Boxes, Extractors, etc., etc., sent free to all. It tells how to introduce queens, how to use foundations, and many useful hints.

ITALIAN QUEENS FOR 1877.

I warrant safe arrivals of all my queens by mail.

Tested queens June 15th to July 15th each	$3 00
" " after July 15th, each	2 50
" " " " six	13 00
" " " " per dozen	22 00
Warranted queens, each	1 50
" " six	8 00
" " per dozen	14 00
Dollar queens, each	1 00
" " per dozen	11 50

tf J. H. NELLIS, Canajoharie, N. Y.

ITALIAN BEES.

Imported and home bred queens; full colonies and nucleus colonies; bee-keeper's supplies of all kinds, Queens bred early in the season. Send for catalogue.

9tf DR. J. P. H. BROWN,
Augusta, Ga.

HONEY BOXES of all sizes or kinds furnished at reasonable rates on short notice, also the Langstroth frames. Give the size of box or section wanted and I will give prices.

Address, R. R. MURPHY,
6-8 Garden Plains, Whiteside Co., Ills.

Wm. W. Cary, Colerain, Franklin Co., Mass. Sixteen years experience in Propagating Queens direct from imported mothers, from the best district in Italy. Persons purchasing Queens or Swarms from me will get what they bargain for. Send for circular. 3 in q.

COMB FOUNDATION.

PURE BEES WAX.

Although it is close work, I have decided to undertake furnishing fdn. at my friend Perrine's scale of prices, as follows:

Packed in neat wooden boxes—paper between every two sheets.

	per lb.	per pckg.
1 lb. 6x6, by mail	80c	80
3 " 12x18 or 8x16½, by mail	80c	$2 40
5 " " " by freight or exp.	55c	2 75
10 " " " " " "	55c	5 50
25 " " " " " "	53c	13 25
50 " " " " " "	52c	26 00
100 " " " " " "	50c	50 00
500 " " " " " "	48c	240 00
1000 " " " " " "	45c	450 00

White wax, 25c per lb. extra, if wanted, but we consider the yellow in every respect preferable; even for comb honey.

The fdn. is kept in stock, in sheets 12x18 inches, and 8x16¾ inches [exact size needed for L. brood frames] packed in boxes of 3, 5, 10, 25, 50 and 100 lbs. each, and shipped only in these boxes at the above prices.

There are 5 cells to the inch, and one pound of wax makes from 4 to 9 square feet of surface. The thinnest will be used by the bees, but is not made into comb as quickly as the heavier, which has a greater depth of cell.

If 60 lbs. are wanted, send money for a 10 lb. box and a 50 lb. box, &c. The difference in price is only enough to cover the difference in cost of boxing, packing, &c.; five 10 lb. boxes, and packing, handling and nailing up five boxes, cost much more than one 50 lb. box, and packing, handling and nailing up one box.

As these packages are all put up and kept in stock, there can be *no variation*, unless at an additional price.

Now, my friends, if you want all sorts of quantities, or want it cut all sorts of sizes, I will accommodate you with all the pleasure in the world, for TEN CTS. PER LB. EXTRA.

Wax will be worked up to order, and cut into sheets of any size desired, for 25c per lb. in quantities of 100 lbs. or more.

We will pay 30c per lb. cash for bright yellow wax, or sell it for 35c.

At above prices we can pay no express or freight charges either way.

Comb Foundation Machines.

Machines for making sheets 1 foot wide -	$100.00
Expressly for L. frame, 9 inches wide -	50 00
For making 5 inches for section boxes -	30 00
Double Boiler for above machines; -	$3.00, 3.50 and 4.00
Dipping plates per pair, - -	$1.00, 1.50 and 2.00

The above prices are for cells 4⅘ or 5 to the inch. If drone size is wanted, add $10, $5 and $3 respectively to above prices. The machines are all ready for use, and full instructions will be sent to each purchaser.

Address, A. I. ROOT, Medina, Ohio.

We have sold machines for making fdn. to C. O. Perrine, Chicago, Ills.; to D. A. Jones, Benton, Ont., Canada; to J. M. Madory, Los Angelos. Cal.; J. H. Nellis, Canajoharie, N. Y.; to Lewis Walker, Ventura, Ventura Co., Cal.; to G. M. Dale, Border Plains, Iowa.; to Rev. J. Van Eaton, York, Livingston Co., N. Y.; to G. W. Gates, Bartlett, Tenn.; to Wm. S. Hersperger, Frederick City, Md.; to Wm. Raitt. Liff by Dundee. Scotland; to W. R. Bishop, Sherwood, Wis.; to James B. Hawkes, Arlington Heights, Ill.; to W. S. Boyd, Bethany, Ohio; to A. W. Foreman, M. D., White Hall, Ills., and to Mrs. M. D. Minor, Amsterdam, N. Y.

The four former were 12 inch, and the rest, 5 inch machines. We presume all will be ready to furnish fdn. at our prices. Also to C. R. Carlin, Bayou Goula, La., one $50.00 machine.

CLUBBING LIST.

We will send GLEANINGS—

With The American Bee Journal	($2.00)	$2.50
" The Bee Keeper's Magazine	(1.50)	2.00
" Both The above Bee Journals of America		4.00
" British Bee Journal	($2,00)	2,50
" All Three		5,50
" American Agriculturist	($1.60)	$2.25
" Prairie Farmer	($2.15)	2,90
" Rural New Yorker	($2.50)	3,25
" Scientific American	($3.20)	3,90
" Fruit Recorder and Cottage Gardener	($1.00)	1,75

[*Above rates include all Postage.*]

E. W. HALE'S

Price List of Bees, Queens, Etc., for 1877.

1 Full colony .. .. with tested queen	$13 00
1 three frame nucleus " " "	5 50
1 " " " " dollar "	4 00
1 tested queen	2 50
1 untested "	1 00

A discount of 10 per cent will be made on all orders of more than $10.00 each. All my queens are raised from *Imported Mothers*, I only guaranteeing the safe arrival *of all tested queens* within 1000 miles. The money must accompany each order, and all orders will be filled strictly in rotation. My location enables me to furnish queens much earlier than parties farther north. Address,

2-10d E. W. HALE, Wirt C. H., W. Va.

1877, Italian Queens. 1877,

Italian queens, warranted as good in every respect as tested queens, $1,00 each. Safe arrival guaranteed by mail. H. ALLEY,

8 Wenham, Essex Co., Mass.

BOOKS for BEE-KEEPERS and OTHERS.

Any of these books will be forwarded by mail, *post-paid*, on receipt of price.

In buying books, as every thing else, we are liable to disappointment if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them *for sale* it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage, shall not be disappointed, and therefore, I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with a *, those I *especially* approve * *; those that are not up to times †; books that contain but little matter for the price, large type and much space between the lines ‡; foreign §.

BOOKS ESPECIALLY FOR BEE-KEEPRES.

Langstroth on the Hive and Honey Bee**†	$2 00
Quinby's Mysteries of Bee-keeping**†	1 50
Bee-keeper's Text Book*†....muslin	75
" " " *†....paper	40
A Manual of Bee-keeping, by John Hunter*§	1 25
Manual of the Apiary, by Prof. A. J. Cook**	30
How I Made $350 a Year with my Bees*†§	25
How to make Candy**	50
Art of Saw-filing*‡	75
Lumberman's Hand Book***	15
Fuller's Grape Culturist**	1 50

MISCELLANEOUS HAND BOOKS.

Ten Acres Enough**	1 25
Five Acres too Much**	1 50
Tim Bunker Papers*	1 50
An Egg Farm, Stoddard**	50
Window Gardening	1 50
Purdy's Small Fruit Instructor*	25
How to Use the Microscope	75
Play and Profit in my Garden*	1 50
"Our Digestion," by Dio Lewis**	2 00
Onion Culture*	20
Potatoe Pests, by Prof. Riley **	50
Practical Floriculture*	1 50
Gardening for Profit**	1 50
Strawberry Culturist, Fuller*	20
Small Fruit Culturist, Fuller*	50
Forest Tree Culturist, Fuller*	1 50
How to Build Hot-Houses, Leuchar§	1 50
Draining for Profit and Health, Warring	1 50
What I know of Farming, Horace Greely	1 50
Injurious Insects, Prof. A. J. Cook***	10
Scroll sawing, Sorrento and Inlaid work *‡	1 50
Steam and the Steam Engine	75
Moody's Best Thoughts and Discourses ***	75
Moody and Sankey's Gospel Hymns, words only	06
" " " words and music, paper	30
" " " " " boards	35
Murphy Temperance Pledges, per 100 cards	40
One doz. above, as samples	07

BOOKS THAT I HAVE NEVER EXAMINED, BUT THAT ARE IN GOOD REPUTE.

Broom Corn and Brooms..........paper 50....cloth	75
Cider Maker's Manual, Buist	1 50
American Pomology, Warder	3 00
Canary Birds..........paper 50....cloth	75
Farmer's Barn Book	1 50
Pear Culture, Fields	1 25
American Bird Fancier	30
American Weeds and Useful Plants	1 75
Bement's Rabbit Fancier	30
Bommer's Method of Making Manures	25
Burn's Architectural Drawing Book	1 00
Burr's Vegetables of America	3 00
Cooked and Cooking Food for Domestic Animals	20
Copley's Plain and Ornamental Alphabets	3 00
Dana's Muck Manual	1 25
Darwin's Variations of Animals and Plants, 2 vols.	5 00
Gun, Rod, and Saddle	1 00
Harris on the Pig	1 50
How to Get a Farm and Where to Find One	1 25
How to Use the Pistol	50
Jennings' Horse Training Made Easy	1 25
Johnson's How Crops Feed	2 00
Johnson's How Crops Grow	2 00
Klipparts Wheat Plant	1 75
Leavitt's Facts About Peat	1 75
Mrs. Cornelius's Young Housekeeper's Friend	1 50
Plummer's Carpenters and Builder's Guide	1 00
Skillful Housewife....'	75
American Fruit Culturist, Thomas	3 75
Cranberry Culture, White	1 25
A Simple Flower Garden, Barnard	38
Farming by Inches, Barnard	38
Gardening for Money "	1 50
My Ten Rod Farm "	38
Strawberry Garden "	38
Carpentry Made Easy, Bell	5 00
Fur, Fin, and Feather	50
Fish Culture, Garlick	1 50
How Plants Grow, Gray	1 25
Manual of Botany and Lessons, Gray	3 00
School and Field Book of Botany, Gray	2 50
New Cook Book, Mrs. Hale	2 00
My Farm of Edgewood	1 25
American Angler, Norris	5 50
Rhododendrons, Rand	1 50
Landscape Gardening, Downing	6 50
Guenon on Milch Cows	75
Sorgho, or the Northern Sugar Plant, Hedges	1 50
My Vineyard at Lakeview	1 25
Shooting on the Wing	75
American Wheat Culturist, Todd	1 50
Cotton Planters' Manual, Turner	1 50
Practical Butter Book, Willard	1 00
Youatt on the Hog	1 00
Youatt on Sheep	1 00
Garden Vegetables, Burr	2 50
Fruits and Fruit Trees of America, Downing	5 00
Complete Works on Chemistry, Leibig	2 00
Gardening for Ladies, Loudon	2 00
Riley on the Mule	1 50
Flax Culture (seven prize essays by practical growers)	30
Peach Culture, Fulton's	1 50
How To Paint, Gardner	1 00
Gregory On Cabbages....paper	30
Gregory On Squashes....paper	30
Gregory On Onions....paper	30
Insects Injurious To Vegetation....Plain, $4 00.. With colored plates, $6 50	
Gardening For Pleasure, Henderson	1 50
Hop Culture	30
Jenny June's Cook Book	1 50
Cotton Culture, Lyman	1 50
Manual Of Flax Culture and Manufacture	25
Parsons On The Rose	1 50
Potatoe Culture, (prize essay)....paper	25
Money In The Garden, Quinn	1 50
Pear Culture For Profit, Quinn	1 00
Manual On The Culture Of Small Fruits, E. P. Roe	50
Farm Implements And Machinery, Thomas	1 50
Earth Closets, How To Make Them, Warring	1 00
Gardening For The South	2 00
Cranberry Culture	1 25
Practical Poultry Keeper, Wright	2 00
Peat And Its Uses	1 25
Hedges And Evergreens, Warder	1 50
Book On Birds, Holden	25
Sorghum And Its Products	1 50
Taxidermist's Manual	1 00
Practical Trout Culture	1 50
Farming For Boys	1 50
Silk Grower's Guide	1 25
Painter, Guilder and Varnisher	1 50
Mushroom Culture	3 00
The Farmer's Receipt Book	50
The Model Potatoe	50
Apple Culturist, Todd	1 50
Youman's Household Science	1 75

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

Vol. V. AUGUST 1, 1877. No. 8

A. I. ROOT,
Publisher and Proprietor,
Medina, O.

Published Monthly.
Established in 1873.

TERMS: $1.00 Per Annum in Advance; 3 *Copies for* **$2.50; 5** *for* **$3.75; 10** *or more, 60c. each. Single Number* **10c.**

SECTION BOXES, WHITE AND YELLOW FDN., &c.

THEY are the wonder of all my bee-keeping neighbors who see how my bees are filling them with the most beautiful comb honey. The principle is all right. When I can get bees to go to work in boxes when I want them to, I, like Novice, am converted to box honey. I am running all my old stock, 32 hives to extracted honey, and all of the increase to section boxes and this is the way I do it: I take a one story Simplicity, put 7 metal cornered frames in centre, a frame of sections at each side, carry it to the stand of a strong stock, and open the old hive, shake every bee off of the combs into my Simplicity, replace the combs and carry them to the stand of another strong stock which I remove to a new stand. The swarm put in the empty hive, may swarm out, if it does, hive it in a box, remove your Simplicity to a new stand and then hive them in it again, when they will work as a new swarm. The way they "*chaw*" out that fdn., especially the yellow will astonish any one. If starters only are used the color is no objection, but if the boxes are filled with fdn. I think the white is worth all the difference.

We are blessed at present with an abundant flow of thin clover honey. It is just to my hand as I am wanting some comb built and have sold 10 swarms. I hope however the weather will get drier before clover is gone that I may get some ripe honey.

HOW TO GET RID OF DRONE COMB.

Take from a strong stock that has a young laying queen, 4 frames of worker comb, extract the honey, cut the combs out and lay them in your extracting room, and replace the empty frames alternately in in the hive with full ones. Now as you extract, when you find any drone comb, cut it out and graft in worker comb. The drone comb that you cut if very new, will do for starters in sections; if it has brood in, shave heads off if sealed, put in cellar 48 hours then use. The bees will clean out dead brood and you can't tell the difference.

I don't like mitred corners for hives, if the boards warp they are hard to put together. I halved mine, got them beveled and rabbeted at a saw mill. They cost me ready to put together, 40 cents each, and they are good ones.

MOVING COLONIES WITH VIRGIN QUEENS.

Let me caution your readers against selling swarms, to be moved immediately, that have virgin queens. I have lost two that I sold to a neighbor. The bees leave the hive and unite with stocks having fertile queens, I think when the queen takes her wedding trip. I have no trouble if I hive them near where they light.

Hans is doing well with his bees, his panacea for all ills that bees are heir to, is *chaff*, and I begin to believe in it. I hope you have a prosperous season both in yard and shop, and that the circulation of GLEANINGS is increasing as fast as my bees are. I can not begin to express my appreciation of your A B C of Bee Culture. If you continue down to Z as you have begun, it will be the best thing out.

R. L. JOINER, Wyoming, Wis., June 22d, '77.

We have carefully examined comb honey built on both white and yellow, and also where the starters were only half way down in the sections. By holding the comb up to the light, we can not see any different shade where the fdn. ended and the natural comb commenced, and by cutting with a knife, we discover no difference where the *yellow* is used, although there is sometimes a difference with the white. The yellow seems to answer so perfectly for all purposes, that we can not see any possible need of using white wax at all; still, as there are some who seem to have a preference for it, we shall keep it constantly on hand. We purchase the very best white wax of the wax bleachers, for making it.

But why not use a piece of worker fdn., to replace the drone comb? Even a queenless colony will make all worker comb then, and it is such a quick and simple thing to get clear worker combs now, that we can hardly take the time to fuss with the irregular natural combs.

We too have had trouble in trying to move unfertile queens, and would second the caution.

We think "Hans" is on a safe track; "long may he live and prosper." The A B C will surely go down to Z, providence permitting.

SALICYLIC ACID, AND HOW TO USE IT FOR FOUL BROOD.

FRIEND Muth who has successfully banished foul brood from his apiary, sends us the following:

It is of some importance to our friends to know the correct recipe for the foul brood medicine so as to get it made in any drug store. It is as follows:

128 grains of soda borax.
128 " " Salicylic acid.
16 ounces of distilled water.

CHAS. F. MUTH, Cincinnati, O., July 3d, '77.

His plan of applying it as we understand it, is to uncap all the brood in every frame that shows any diseased cells, and thoroughly spray or drench, bees, brood, comb and all with the solution. Mr. M. thinks the borax quite an important addition, as he effected a perfect cure, by a single application. From reports received, we are inclined to think there are different types of the malady; those of the milder form, yield very readily, and in fact often disappear of themselves, while the worst forms seem proof against almost all that can be done, except destroying bees, combs and all; at least reports would seem to indicate as much, although we hope that when we get better acquainted with it, it will be found not so terrible after all, as has been the case with many other obstacles to rural industry.

HONEY KNIVES, TEMPERATURE FOR WINTERING, &c.

SOME QUESTIONS FROM A WOMAN BEE-KEEPER.

I AM a beginner in bee-keeping, had but 7 colonies the 28th of April last, in old miserable hives—have increased to 19, shall have several more. I put all the new swarms in L. hives and they are doing finely; some have filled the 10 frames and are storing box honey from white clover which is abundant.

Send me the *best* honey knife you have, the one *you* like best.

What ought the temperature of the room to be for wintering bees most successfully? What work can I get on the subject of wintering? What is the trouble? In our cold climate, would a dry room—well ventilated—where the mercury never goes below 40°, (without artificial heat) be a good place? Would I need chaff cushions on top of frames in such a room? If I put wire cloth over portico is that all the ventilation they need? Shall I put the caps on in such a room in winter?

There are no bee-keepers here, not a movable frame hive in this county save mine, which I sent out of the State to get. MRS. A. B. SMEDLEY.

Cresco, Iowa, July 2d, 1877.

We much prefer a straight bladed knife, and if we had one with a curved point, should certainly want a straight one also, for a multitude of purposes in working among the hives. Where attachments of comb are made where not wanted, against the side of the hives for instance, the sharp rounded point of the flat blade, is just what is wanted. Mr. Quinby made the first curved point knife we ever saw or heard of, and those we offer are made after his pattern.

About 40° is considered the best temperature for in-door wintering. . We know of no work on wintering that is up to the times, but we shall endeavor to give all the latest developments, before it is time to prepare for wintering. Much in regard to wintering is still unexplained; it is not cold weather alone, or at least not severe cold weather, for they die in the same way in the Southern states; and the great losses, are mainly in March or April, after severe weather is past. Your dry room should be kept perfectly dark, as well as ventilated and frost proof. We would remove the covers for in-door wintering, but would leave the sheet of duck over the frames. The full entrance will be ventilation enough, unless the colony is very populous. With the excellent success that has attended chaff cushions, we would advise using them whether the bees are in-doors or out. In the house apiary, which seldom or never goes below a freezing temperature, they have proved a very decided advantage indeed.

SMALL STEAM ENGINES, VERSUS FOOT POWER, &c.

DEAR NOVICE:—I have just been lying on top of a row of bee hives under the shed, reading GLEANINGS and watching for swarms, bees flying thick around me. It takes several pairs of eyes to watch all the bees we have here. I want a little more light in regard to that 1½ horse power engine that friend Martin tells of, to run a foot power saw. "We uns" may want something of the kind down here another year. Novice can't you add buzz saw engines to your price list? Don't expect you to send them by mail of course. Will friend Martin please tell us where he got his, and what it cost? is there any more there, and all about it?

Bees are doing well here, from one to five swarms per day. WILL. M. KELLOGG.

Bee Ranche, Miss. River, June 25th, 1877.

Here's "what I know about engines." I purchased mine of S. C. Forsaith & Co., Manchester, N. H., price $180.00. It is an upright boiler, rated at 1½ horse power, occupies only about 18x24 inches floor space, and runs at the lively rate of about 200 revolutions per minute. You may talk about your foot powers, I wouldn't trade my little engine for all the foot powers in the U. S. Unless a man has the strength of a Hercules he will break down on the continuous treading of a foot power, while the engine takes all the leg labor away from you, and your saw mill sings all day on two scuttles of coal and a few cinders, or siftings from the grate. With the work we now have to do we couldn't possibly get along without the engine, and advise every bee-keeper with a hundred swarms or more, to get one; of course it will take some time to learn to run it and understand all its kinks. We notice a book advertised in last No. of the *Agriculturist* that will just fill the bill for an amateur engineer. We notice several engines advertised in the *Scientific American;* The Eureka for $150, the Little Giant $150, and the Domestic for $175. An engine of this size can be put to many uses on a farm, and is a very handy machine to have round even if you don't keep bees.

NOW ABOUT COMB FOUNDATION.

We sent our wax to Mr. Nellis, had it worked up and have since purchased more, and we can not say enough in its praise; the bees readily build it out and the queen soon fills it with eggs. Without hesitation we vote it a success for brood combs, while for surplus honey we have not given it sufficient trial, but have some in process of filling out in section frames.

RIPENING HONEY.

On page 180, GLEANINGS, we notice friend Doolittle's interesting letter, in relation to the above subject, and it induces us to relate a little of our experience from experiment. We noticed last fall that the honey carried out in cans by our peddler, candied very soon, and we thought it was owing to the continuous agitation it received. To test the theory by experiment, I made a small churn of a quart fruit can and fixed it so as to run from our engine belt while we were at our usual work and the result was just as we expected; the honey soon turned to a milky whiteness with a thick white foam, and after being set away did not become clear again, but candied solid. We are trying farther experiments with different qualities of honey and think if any one wants candied honey on short notice, we can supply it, even if we have to churn it. This seems to corroborate Mr. Doolittle's theory. This may also explain why some honey candies sooner than another quality, perhaps some swarms *churn* their honey more than others. Whenever we experiment with honey we frequently think of the Scriptural mention of "the land that flows with milk and honey." Now is it not possible that among the *lost arts* there was a combination of these products for the use of man?

Our bees have been doing well but recent heavy rains have dampened their ardor somewhat.

We fasten fdn. in frames in the following manner; the under side of top bar is without groove or guide, rub a piece of wax over this surface and then press the edge of the fdn. down flat upon it with your *table leaf* press, and then turn the fdn. down the way it should hang in the frame. Ours sticks every time; rubbing the wax on first gives it a foot hold.

J. H. MARTIN, Hartford, N. Y., July 4th, '77.

Your little steam engines are all right, but my friends you need a foot power saw all the same. Although we have saws running by power constantly, we find one of the Barnes saws so handy that we can hardly get along without it. If we want to cut off a piece of lath, it does the work true, exactly square, and so much smoother than any thing that can be done with a hand saw, that we sometimes meditate taking all the latter out of the shop. It *is* true, that many of the hands would not learn how to use the machine at all, unless told how, over and over again. For making packing boxes, crating odd shaped articles, and for a great variety of odd job work, the foot power saw is cheaper and quicker than steam, unless an extra saw is kept constantly running.

Thank you friend Kellogg, and I will at once take measures to examine into, and perhaps test the merits of these small engines. As this will be done especially for the benefit of bee-keepers, a full report of the matter will be given in GLEANINGS.

GOOD QUEEN CELLS. RYE STRAW VERSUS CHAFF, THE L. FRAME, &c.

ENCLOSED you will find 25 cents to pay for as many numbers of GLEANINGS as you can afford. Now I am not satisfied with what you sent, and would like to see more of your Journal, but you see we are very poor up here; the reason is we are very lazy; you can't imagine how we enjoy laziness, and being lazy we must be ignorant. Now if I get for the 25 cents its value, I may try to raise more, but I want you to correct some mistakes. The idea of directing us, in making artificial swarms, to collect several frames from as many hives, and put them together, then 15 days afterward look sharp for queens, won't do up here; neither would it do in Wisconsin. I have had queens hatched in 11 days from the time the queen was started and it is never more than 14 days. If they are left 15 days there will not be a live queen in a cell. Our way is to be found in, "What to do and how to do it."

Again I see that you rather give the preference to chaff hives; now that may be the best thing you have up there, but it does not look best to me. If, in that cold region, you need a hive that will keep the bees warm in winter and cool in summer, that will equalize the temperature, make your hive the size you want it, then nail pieces on the corners reaching from 6 to 8 inches below bottom, to the top and standing out one inch. Then put 3 strips across, ½x1 inch, from one corner strip to the other all round, filling between the strips and the body of the hive with rye straw, cut to the right length and placed vertically. This straw will last ten years and can be removed in 30 minutes to the hive. It will not cost as much by one-half and will save nearly all the paint, provided the top be made of tin as it should be. Such a hive, it two story, (which it should be) with the upper story filled with dry cobs, is the best winter quarters for bees that I ever found in Wisconsin.

Last winter was the hardest on bees for ten years; three-fourths of the bees in east and middle Tenn. died last winter, so that bee-keepers are generally demoralized. This has been the best honey season for ten years.

I got one new idea from your front page, which is that Italian bees are "moth proof." I thought I had said all that was to be said in their favor; but never thought, that it was the bees; I thought it was the hives. I think you are right.

In regard to the L. frame it will do very well in this climate, but in the North, they are not best. A frame more nearly square is better. Bees will starve in L. frames with plenty of honey, they can not reach the honey at the ends when the weather is very cold, and I hold that no hive is what it ought to be unless it is at once summer and winter quarters. I have tried 27 different models of hives and I put the Langstroth two story hive, No. 3 in this climate and no where in the North.

I have some 65 stands of *pure Italian* bees, half of them came through the winter——the other half strong. I think that I will get from the good half 25 lbs. each, average. This is a good country for bees, is very healthy, with splendid climate. The people are "*selfish* and *grasping*."

Now if you have an extractor that will extract any thing, more than the 25 cents, out of this letter, I will be pleased.

Your friend and the friend of all men, and women, who are using their mental and physical powers for the good of the world, and opposed to all patent *bee hives*. "May the kind Father bless you."

A native of Ohio, down in the State of Tenn.
Jamestown, June 27th, 1877. B. L. BRIER.

I fear you are "too lazy" to read your sample copy thoroughly, friend B. I said very plainly, 15 days from the time the eggs were laid; if you give them large larvæ, or larvæ of different ages, of course you will have to take out the cells, in 9 or 10 days, but I would strongly urge that the bees be compelled to use eggs or larvæ just out of the egg, that we may have none of those half queen, and half worker bees. A subscriber has just sent us a worker bee that was hatched from a queen cell, and we very often find these where a weak nucleus is allowed to have larvæ of all ages to rear queens from. Some of these small shiny queens, or worker queens, will lay eggs for a few months, perhaps a year. What we want is queens that will last 3 or 4 years. We have quite a number in our apiary now, in their third year, and they are just about as good as the first season. A queen that will do good work for 3 years, is worth—how much more than one that fails in one year? A dollar queen reared in this way, I consider worth very much more, than many of the tested queens one year or more old. From the way orders are sent in, I judge that others are becoming of the same opinion, for dollar queens raised in a large apiary, all Italians, are the greater part of them. equal to any at any price, and they are *always young* queens.

We give a space of 4 inches for chaff, and you speak of one inch of straw being as efficient. The straw with tin cover would be about as expensive to many of our readers, as the chaff hive, and just think how your apiary would look. A hive of boards, can be repainted when it looks bad, but your rye straw—I am afraid I should not take pride in bringing visitors into my apiary, as I now do.

Our large honey raisers who winter with the most unvarying success, year after year, use the L. hive, or Quinby, which is much like it in shape, and I can not call to mind one who has met with such success with either the Gallup, or American frame, as those who use the Langstroth. Adam Grimm who perhaps stands at the head of all in successful wintering, used an 8 frame L. hive. James Bolin who winters year after year often losing less than one in a hundred, uses the L. hive. If any such reports have been given with the Gallup or the American frames, or indeed with any of the tall frames, I should be glad to have them pointed out. You are in the *South*, and have a hive that is ever so much better, and yet your best half, you say will give you only 25 lbs. each. I have taken over 100 lbs. of comb honey in small sections, from several hives already—July 11—and I very much doubt if I could have done as well with a deeper frame.

Be careful my friend how you speak ill of the people; you are one of them. Your conclusion does not look "grasping," and we shall be very glad indeed to welcome you among us, even if you are somewhat inclined to "laziness."

* * *

I have 50 of the nicest sections built from fdn. you sent me, that you ever saw. Quite a number of bee-keepers came to see how the comb looked when filled; they want me to get a machine and make fdn. to supply them the next season. I told them I would get one and accommodate them. Bees are doing extra here this season. We have more white clover than for ten years before. Basswood just commencing to bloom but bees don't seem to work on it much. The prospect is good for a big honey crop here. I think clover will last until the middle of August. Chaff cushions are going to be the hobby here, for wintering. I will report from "Rocky Fork" apiary after the honey season is over. N. W. KERSHAW.

Hope, Ohio, July 8th, 1877.

Basswood seems rather an uncertain honey crop with *us* of late. Year before last, we had a bountiful flow, but last season as well as this, only a flavoring. The trees are loaded with blossoms, and the bees are humming over them, but it seems to take them nearly all day to get a load, for it is late in the evening, before they come home heavily laden.

SOME QUESTIONS FROM LOUISIANA.

WILL you please answer a Southern subscriber a few questions? Will it pay to introduce the Italian bee where you are surrounded by woods full of black bees?

You can raise just as much honey, in our opinion, as if the black bees were not there, but you can not rear queens for sale, with much probability of having them purely fertilized, for the first few years. To be on the safe side, get an imported queen, and rear all your queens from her brood; this can be done with very little trouble. Your hybrids will all be excellent workers, and as they produce pure drones, you will very soon have many pure queens. Even the bees in the woods, will soon become Italianized, as is the case with nearly all of them in our vicinity now. All you have to do, is to keep rearing all your queens from pure stock, and nothing else, and you can secure large crops of honey at once; perhaps even larger than if there were no blacks in the neighborhood.

What causes bitter honey in the spring, the principle source of honey being red maple, black gum, clover, all the principle fruits, &c.? Is the honey from the yellow jasmine poisonous?

Honey from fruit bloom is sometimes slightly bitter; we have thought it might be from the peach, but may be mistaken. It will all be used for brood rearing, and will do no harm. We have never heard of any poisonous honey except that from the laurel, and know nothing of the jasmine.

My bees will persist in swarming, and in spite of every precaution I continue to lose them; I tried clipping the queen's wings, and two out of three were superseded. Does this occur often?

You can easily stop swarming, by dividing your stocks until they are too weak, or by taking away their honey with the extractor. Clipping the queens, has no effect on swarming, more than to prevent them from going off, and when they once swarm out, if giving them more room will not satisfy them, you will have to divide or let them swarm, or they will surely supersede their queens.

How far can a queen be sent by mail *safely*, and is it necessary to have workers in the cage with her?

Queens are sent safely to California by mail, and we think will very soon be sent across the ocean. It may not be necessary, but we think it better to have workers in the cage with them, say ten or a dozen; if too many be put in, they require so much food, they may be in danger of starving.

I have a large tin can 24x24 inches, I wish to use it for an extractor; could you make the inside and gearing for the L. frame to rest in it, in same position as in the hive, and the whole to fit this can? and what would be the cost?

Many have asked about putting inside work into cans or casks for a home-made extractor. It can be done, but we think seldom profitably. You rarely get a convenient machine and the expense is very often more than to buy a complete machine outright. The cans we make only cost you from $2.50 to $4.00, and they are so light, that the expense of shipping is but little more than for the inside work alone.

This has been a very good season for honey I believe, but I did not take advantage of it for the want of experience in the management of bees. I commenced this season with 5 strong colonies, increased to 8 by dividing. I concluded I would run the old hives for box honey, but they took the swarming fever and *would* swarm after nearly filling the boxes with comb and honey. The most I have obtained from one hive was in section boxes of 1 and 2 lbs. each, nearly 30 lbs. in all, besides 3 solid frames of sealed honey that I did not remove from the hive. This was a young colony that was made in the spring by dividing.

The people of this country take but little interest in bees. Some few have them in box hives and log gums large enough for two or three swarms, consequently the worms clean them out every year or two, and they get but little honey. Some go to the woods for a supply of honey, finding plenty of bee trees in the cypress sloughs or brakes. The trees in the swamp generally contain from one to six gallons of honey, sometimes dark but of fine flavor; where the bees obtain it I do not know, for the swamp is overflowed in the spring of the year when the flowers are in bloom elsewhere. After the water falls, the Buffalo weeds, and wild sensitive plants spring up and give plenty of flowers but these are the only flowers *I* have ever seen in the over-flowed district. We have no basswood, or poplar, and but little clover in this section of country. Now, Mr. Editor, you may put me in your "Blasted" column if you will, but I have some hopes yet. WILMER GIBSON.

Warsaw, Franklin Parish, La., June 19th. '77.

PATENT RIGHT CIRCULARS, NON-SWARMERS, &c.

HERE is another of those "pesky varmints" the patent right men. Please show him up.

S. B. RICHARDSON, Beebe, Ark., July 1, '77.

The circular referred to is of the general tenor, claiming for *their* patent hive that it excels all others wherever tried, of course. My friends is it not a little singular that so many hives should be better than any of the rest? Why not advertise them as being "very good," and forbear speaking dispargingly of others? This circular hardly deserves classing with humbugs and swindles, although it does give one an idea that all grooved section boxes are patented, and that they can not be purchased except at about four times the regular price. The most objectionable feature of it is the following:

> No swarms lost by absconding to the woods. As all apiarians are aware, thousands of swarms are annually lost by deserting their hives (after hiving). We are happy to inform all interested that we have perfected an invention which entirely prevents this in every instance, thereby saving the price of the hive. This is done by a simple regulator which can be adjusted by a child. It confines the queen to the hive, allowing the workers to pass and re-pass at their pleasure. It will be seen that the duty of the apiarian is to hive the swarm, properly adjust the regulator and go about his business, without any anxiety in regard to it. Should you be called away and swarms are expected they may be confined to their hive in the same manner. The queen being unable to escape with the swarm, of course they will return to her.
>
> In the above facts we hope to have made it plain to you, that the labor, vexation and anxiety of losing swarms is unnecessary, by using our improved entrance and regulator which gives you complete control of the swarm, confining the queen to the hive, at the same time not interfering with the labor of the bees in the hottest weather (for the entire front is open, an advantage claimed over all other hives). Its passage may be entirely closed or adjusted to a single bee passage, to prevent robbing, &c., &c.

Ever since Mr. Langstroth mentioned this idea in his book, it has been a favorite theme for patent hive men, and in spite of his testimony and that of others that it was a failure, they still make it a pretense for obtaining money from the too credulous. Even if a device were obtained that would exclude the queen and permit the workers to pass freely, it would result in the loss of the queen, for she will be very soon killed, if confined to the hive when the bees are determined on swarming, if giving them plenty of room will not stop them, you had better let them swarm. We have have had two cases this season in which the bees went back and went to work most industriously, by giving them an entire new set of section boxes with fdn. starters. They swarmed out just because they had finished their first set before we were aware of it. We forbear giving the name of the friend who sends out this circular because we think it is more through ignorance and carelessness, than any wish to mislead. Non-swarmers, queen yards and all, are as yet, all impracticable.

PATENT HIVES, &C.

I have 8 colonies of the common bees in the common box hives. I commenced six years ago with one colony in an old log gum. The first year they did not swarm. Since that time I have had 18 swarms. They have generally done well until last year. Last year was a very poor honey season and I lost six colonies of my bees during the winter. I have no way of getting into the hives to see how my bees are doing, and of course am unable to correct any thing that may be wrong with them. I have made up my mind to make a change in my hives, and hope that I will be able to gather such information from GLEANINGS as will enable me to correct any errors that I may have on the subject of bee culture.

I see you are down on all patented bee hives, but recommend the Langstroth frame for everybody. The Langstroth hive is thought by everybody here to be patented. I know of but three or four persons in this section of the country that use them, and they paid *ten dollars* for a hive and a farm right to make and use them. I have not the money to spare in that way. I think by procuring a Simplicity hive or some other approved hive for a pattern to work by I can make my own hives cheaper than I can procure them in any other way.

N. F. BURNETT, Pikeville, Tenn., June 29th, '77.

Over and over again, we get letters like the above, telling how money has been paid for rights to both the Langstroth and American hive, even though both have been for years past, public property. Will this business never cease, of giving honest hard earnings, to traveling vagabonds, and thus paying them a premium for their dishonest practices? In our own county, and almost in our own town, a man has been selling rights to the farmers for a hive under a new name, that is only a copy of the exploded Kidder hive. These farmers admit that none of the successful bee-keepers all around us use such hives, or in fact use anything patented, in the shape of hives, but yet they are persuaded that *this one*, is a great invention, and notwithstanding the fact that they are told over and over and over again that the hive is utterly impracticable by our modern honey raisers who are fully versed and up to the times in all new improvements, they choose rather to be guided by the speculator who has a right to sell.

I have sometimes thought that it was because farmers get lonesome, and want some one to talk with, that induces them to keep investing money where past experience shows no one ever got any back according to representations. These men are so very kind and sociable, so very pleasant, and so much interested in all that pertains to farm life, it really *is* a pleasure to talk with them. Well talk and visit with them if you wish my friends, but be very sure you do not let them get hold of any of your money, in any shape or manner; do not even take one of their hives as a gift, for the damage resulting from bringing an odd sized frame into your apiary, is often far greater than the value of the money you pay them. If you think their judgment is better than mine, go and ask some one near you who markets honey by the ton; patent right venders, always give these men a wide berth. They get their money from those who have none or only a few bees, and often from those who have purchased all the patent hives that have come along, and even then have not succeeded.

ITALIAN BEES, BOX HONEY, &c.

A CORRESPONDENT writes us thus: "I have kept the Italians for four years and they have made no surplus honey for me while the black bees stored lots of honey in the surplus boxes. I even fill the boxes with comb and they will not work in them, but lay about the hive in clusters." Our friend does not inform us how many bees he keeps, therefore we are unable to decide just what course we would pursue with them. If he has 10 or more stocks that act in this way it is something we know nothing about; but if a single colony it would not be very strange.

One important point in the construction of a hive for box honey with Italian bees should not be overlooked, and that is, the brood chamber should not be too large. If our friend has a brood chamber of from 2000 to 3000 cubic inches we should not wonder at the actions of his Italians, for Italian bees are prone to store honey in the brood chamber in preference to the boxes if the queen does not have it occupied with brood when the honey season commences; and if they have room to store 30 or 40 pounds in brood chamber they will very likely not go into boxes at all; but keep crowding the queen until the bees get few in number, and at the end of the honey season we shall find there is scarcely any brood and but few bees, but a hive full of honey; while if we had removed all combs that the queen would not occupy with brood at the commencement of the honey season, putting boxes in their place, we should have had a fair return of surplus. If bees refuse to work in boxes which they sometimes do, there are various methods of getting them to go to work. We will give two or three which are usually successful. If a box, bees and all is taken from a hive that are at work in boxes, and set on the hive that are loth to enter the boxes it will usually incite them to work also. If this does not work, fit a piece of comb with small larvæ into one or two boxes and they will generally commence work in the rest. If this does not answer drum or shake from the frames the larger part of the bees and the queen and put them in a box or hive, and when they get to building comb finely put them back and we never knew them to fail to work, going right to the boxes and building comb in short order. In drumming out the bees do not drive too close, as bees enough must be left to protect the brood. That Italians were inferior to black bees for box honey, if properly managed, we never could see, even in a good season, and in a poor one they will certainly show their superiority.

In 1872 (the poorest season we have ever had) while our black bees were actually starving, our Italians were making a small gain from red clover, and at the end of the season the report stood as follows: from pure Italians 60 lbs. surplus box honey, from hybrids 30 lbs., from blacks nothing and no honey in the hives; and the pure Italians furnished enough besides the surplus stored in boxes to carry the blacks through the winter. G. M. DOOLITTLE.

P. S.—The nice white comb that the drummed out colony build while in the box, should be placed in the boxes for starters for there is no greater incentive to bees to commence work than new white comb.

Borodino, N. Y., July 10th, 1877. G. M. D.

TOADS do eat bees, and they are not at all particular whose bees they eat either. We have given our minister a hive of gentle Italians; they are in a lawn hive, and it looks about as pretty under the spreading branches of a small evergreen, as almost anything you ever saw in the shape of a bee hive; and yet sad to tell, his toadship sits right in front of the hive and gobbles the bees up as they come in laden with the clover honey that is needed to put the finishing touches on the filled section frames.

GLEANINGS IN BEE CULTURE.

Published Monthly,

A. I. ROOT.
EDITOR AND PROPRIETOR.

MEDINA, OHIO.

Terms: $1.00 Per Annum.
[*Including Postage.*]
For Club Rates see Last Page.

MEDINA, AUG 1, 1877.

But whoso shall offend one of these little ones which believe in me, it were better for him that a millstone were hanged about his neck, and *that* he were drowned in the depth of the sea. St. Mathew; 18, 6.

* * *

SEE our new price list on fdn.; 45 to 55c. per pound.

* * *

FRIEND Boardman, of Huron, O., has sent us a section containing a single comb of honey, *four and one-fourth* inches through, and we have sent him the $5 with the condition that he shall give it up when some one does better. The honey must be sealed, and must be shipped safely to us.

* * *

AND now it transpires that we can use fdn. for a natural swarm without *any* old combs after all. We have furnished hives for new swarms in that way, and prettier combs were never before seen in our apiary; every one of the ten are gems of beauty, and we have yet to see a single poor one made in that manner. If there are bees enough to fill the hive, they all "grow" about alike, and our swarm is about as far ahead in 3 days as it would be in a couple of weeks, if put into an empty hive.

MEDINA COUNTY HONEY CROP.

Our neighbor Shane has taken his usual 5,000 lbs. extracted honey and sold it to Muth for 10c. Says if he is sure of 10c. he would never want to bother with comb honey, even if he could get 20c. for the latter. Mr. Rice has taken 3,000 which he is selling for 13c. in 100 lb. tin cans, to dealers in his vicinity. His tin cans have a neat bail for carrying and cost him $1 each. Shaw & Son have 2,500 extracted. Dean about the same, besides 1,200 in section boxes. Blakeslee about 1,000 in small sections. Our own apiary has since May 1st (75 colonies) furnished bees and queens to the amount of $300, comb honey $250, besides increasing to 118 full colonies and nuclei.

* * *

I WISH it were possible, my friends, to be prompt in everything, and to foresee just what there may be a great demand for. With the exception of honey knives and queens, I believe everything has been sent promptly this season; the former was occasioned by a very inopportune breakdown at the factory, and although every customer was at once notified, we had some rather unkind letters in regard to the matter. To avoid a similar mishap on such a great staple, again, we have been to the expense of a stock that will probably last all of next season. The orders for queens have been such that we had no sort of an alternative but to get everybody we knew we could rely on, to help us out. Shaw, Dean and Blakeslee were very soon "swamped," and Dr. Brown, Vaughn, Cary and others soon had to tell us to hold on also. Nellis bid fair for a time to be a "solid rock," but when we began to pour in the orders at the rate of towards a hundred a week, he too cried "hold on." Now under such a pressure we sometimes sent to those who filled the orders at once, and others would return orders saying they could not fill them, etc., and so without its being really our fault, one of you might be delayed a long time, while your neighbor got his queens promptly. I have tried to accommodate, even to paying $1.00 for queens that I only received a dollar for, yet I know I have tried your patience many times sorely. Will you not excuse it? Next season——no, I will not promise, but will try to have "5 gross" of queens on hand, as well as honey knives. I do wish we could get up the latter as safely and surely as we can the former. Shaw, Dean and all the rest have recovered from the shock, and are now in front at work; send on your orders.

* * *

I have used some 30 lbs. fdn. this season, purchased of Mr. J. H. Nellis and it works to a charm, it is a perfect success. I find that my queens lay in it readily; in many cases I have found them laying in it in 24 hours after putting it in the hive. I think they use it full as readily as the new natural comb. It is well known that queens will shun new (natural) comb as long as there is room for them in old comb, but not so with fdn. Those who have pronounced it a failure did not know how to use it, or else they did not have pure wax fdn.

A. E. MANUM, Bristol, Vt., June 29th, 1877.

RAPE AND ROCKY MOUNTAIN BEE PLANT.

I consider rape a profitable crop to raise for honey. I sowed some last season for my bees and was so well pleased with the result that I have sowed five acres this season. It usually comes into bloom immediately after the basswood season is over. While in Ohio I visited your friend Rice of Westfield, and he gave me some seed of the Rocky Mountain bee plant (*Polinisia purpurea*). By the way, I have seen hundreds of acres of it in the Rocky Mountains. I sent it home with directions for sowing. It comes into bloom after rape. I think I never saw bees work so industriously on any one kind of blossom as this, while in bloom, and it blooms equally as long as white clover. I have sowed quite a large piece this season from which I shall be better able to judge of the quality of the honey it produces.

L. W. STUART, Monmouth, Iowa, July 4th, 1877.

CHAFF HIVES.

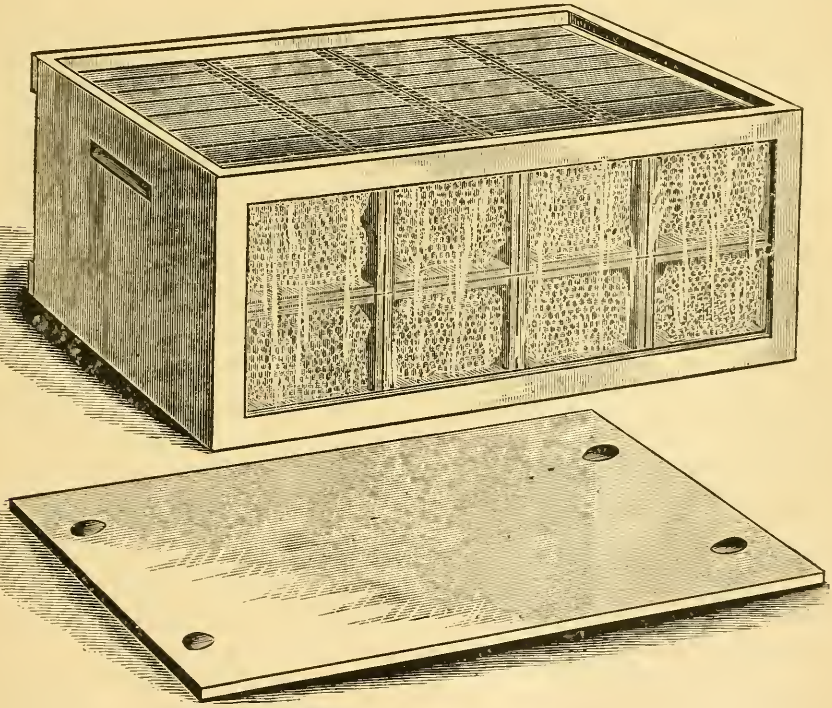
THE chaff hives are *especially* suited to summer use. The bees neither hang out nor swarm, as they do in common hives and so far as we have tried them, the chaff seems about as important in summer as in winter, and it will doubtless prove of great benefit in the South, as well as in our locality. We have mentioned a fourth swarm of hybrids that was put on six combs, in one of them, last fall; this colony seemed to build up all winter and scarcely a dead bee was seen at the entrance, or in the hive. They have at this date furnished 75 beautiful sections, which have been taken from the hive and sold, and as many more are now in process of filling. They work earlier and later than colonies in common hives, and are to be seen coming in loaded during weather so cool that the other bees are hardly out at all. One hundred colonies of bees like these, would afford a very good income, and I can see nothing to prevent one man, or even one woman, from taking entire charge of them. After the hives are once located, there is no lifting at all to be done, aside from the frames and sections for there is no upper story to take off, and new swarms can be readily carried to the new hives; as the cases of sections weigh only about 50 lbs., a woman could easily carry them to a platform at one side of the apiary, where they could be conveniently loaded into a wagon. After we are once started, all that is to be carried into the apiary, is these cases of empty sections, and all that is to be carried out, is the cases of filled sections. The entire wintering preparation, consists in removing the frames of unfilled sections, and putting in their place the thick chaff cushions. Nothing more is to be done to them until they are ready for the same frames of sections again the following season. Every colony that has worked in sections will be amply provisioned for winter, as a general thing, without any kind of "tinkering," if they have the whole lower 10 frames. The frames of empty sections can be very conveniently kept over winter in Simplicity hives placed one over the other. In this way they may be stored very compactly, and are secure from mice and insects until wanted. There is no need at all of uncapping and removing the partly filled sections. If any of them contain dark fall honey, set them on hives the next season a little before new honey comes in; the bees will uncap and take it all down for brood rearing, and the old comb will be fixed exactly as good as new, as soon as the new honey begins to come in. If the sections are left on the hives until rather cool weather in the fall, there will be no trouble with the moth worms in them, but if taken off in warm July or August weather, they may make considerable trouble. I do not know of any simpler way of getting comb honey, than with the chaff hives as given above. If you use the tin separators you will never have any brood in these small sections, nor any combs built crosswise to hinder and delay your work. The broad upper story containing 80 sections, seems to be just what is wanted to prevent swarming.

MARKETING HONEY.

ALSO SOMETHING ABOUT TAKING IT OFF THE HIVES.

There is nothing that can make a bee-keeper feel better than clean cash for his surplus honey at the end of the season.—*Adam Grimm, page 86, Vol. I,* —GLEANINGS.

EVERYTHING nowadays depends on having goods neat, clean, and in an attractive shape, to have them "go off" readily; even our hoes have to be gilt edged, for I noticed some at a hardware store a few days ago, and it seemed that those that were gilt, or bronzed perhaps, were selling far in advance of the plain steel ones. We have been told of gilt edged butter, that sold for fabulous prices, but we hardly think it will be advisable to have our honey put up in that way, although we do wish it to look as well as any other of the products of the farm.



CASE FOR STORING AND SHIPPING HONEY.

In our price list, we advised using the Simplicity hives for shipping cases, but although they are perhaps as cheap and strong as almost any box we could make especially for the purpose, they are not exactly what is wanted. The broad frames, and tin separators occupy considerable space and these are just what we can not well spare, when we are sending honey to market, for they are wanted to put back into the hives. There is another trouble, which will appear from the following note from our commission house in Cleveland, to whom we sent a couple of the sections as a sample.

The sample of honey is very nice and we think it will sell readily but we can not tell at what price. Our opinion however, based upon reports from other markets, is that it will bring more now than later. If you have a stock of it, please send us a little lot; do not on any account box it up invisibly tight but pack it so the express men can see what they are handling. Give us your price and we will see how our market will respond; by all means make it low enough to sell readily. STAIR & KENDEL.
Cleveland, Ohio, July 5th, 1877.

You see the hives would make the honey invisible, and of course the express men would smash it. Now to determine about what sized package would be best, we sent to a manufacturer of fruit and berry crates, for they have determined by much experience, what is probably best. We procured a very pretty crate from Batterson of Buffalo. It is strong, light, cheaply made and has convenient handles to lift it by. From this we decided that we wanted a package composed of about 2 sections in height, 4 long—just as they stand in the hive—by 6 wide. This would make just 48 sections, and they weigh just about as nearly a pound each, as they can well be made to do. The accompanying engraving will, we trust, make all plain.

The glass is to slide in at the upper edge, after the box is all made. If a glass should be accidentally broken, one may be easily slipped in by simply unscrewing the cover.

The end boards are of ⅞ stuff, 9½ inches wide, by 12¼ long. They are rabbetted at both upper and lower edge to let in the tops and bottoms, which are of ⅜ stuff. The ends of the end boards, are also rabbeted just enough to receive the glass; this is done by a single saw cut. Strips of ⅜ stuff, 1½ wide, are put across above and below the glass; they reach below and are nailed into the bottom board to give it strength. The case is completed, by nailing strips of the same kind on the ends of the end boards, and it is then ready to slide in the glass. To have them look neat, they should be well painted before the glass is put in. Ours were so much admired before painting, that we anticipated an additional surprise when they were all painted a pure white, but we were somewhat astonished to find that the honey looked several shades darker by the strong contrast. Will some of our feminine friends who have a taste for appropiate colors, tell us what shade to paint our honey cases? White soils too easily, with the rough handling they will be likely to get, aside from the reason mentioned.

The two sheets of glass can be purchased anywhere for about 12 cents, and we have all the advantage of glassed boxes, with less than ⅛ of the expense, for nothing can be handier for a retailer, than to set this case on the counter and simply raise the cover and hand out the neat little 1 lb. sections to his customer. The case itself, filled, is about the best advertisement one can possibly have, and the contents are always free from dust, and secure from flies. No glass is needed on the sections, for they are so small and thick through, that they can be safely wrapped up in a piece of paper almost as well as a cake of soap.

After we had finished the first one, it was sent as a sample, with the remark that we thought it should retail for 25 cents; this is their reply:

> The case of honey was received to-day and was unexceptionally in the best shape of any honey we ever saw for retailing. We had no trouble to get the price, 25 cents at wholesale, closing out the entire 45 lbs. nett. We will say you may send us all you have of such honey in same shape. We will either buy it or sell for you as in times past.
>
> It will not be well to crowd it on account of the outside cases or else we would say send all you have at once. If you have a ton or two it will not matter, only we would say send about 500 lbs. at a time, which could be sent by freight if it could be transferred at Grafton with care. STAIR & KENDEL.
>
> Cleveland, Ohio, July 7th, 1877.

Honey put up in this shape, will be pretty sure to sell readily in almost any town in the U. S., and nothing further remains for us to do, but study how we can get it in this shape cheapest. I do not know that I ever really enjoyed any work in the apiary more, and that is saying a great deal, than taking off these little section boxes.

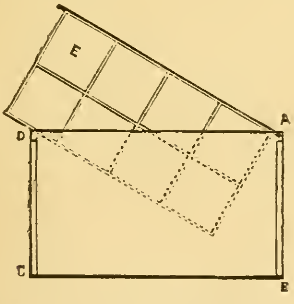
I hardly know which plan is quickest, to remove a whole upper story and let the bees leave it and go back into the hive before the sections are taken out, or to pick out the filled sections as fast as completed, and replace them with empty ones. Where you have a large number of hives with the boxes mostly filled, I would adopt the former plan. Lift off the upper story and place it in front of the hive. Now on this first one, place an empty upper story filled with sections and fdn. After the bees are all or nearly all out, sort out the finished sections, and put the unfilled ones with new sections to fill it out, into an upper story for the next hive, and so on, until we get through. The bees will work on sections partly filled from another hive, just as well as one from their own as far as we have been able to discover. Where the work is considerable, a cheap hand can do the sorting and crating as well as anyone else. A girl that is careful, one who will not scatter the sections and knock them over against each other, is just what you want. They are to be handled just like eggs, and the fingers should be so clean, that they will not soil white paper. If you wish your honey to bring the highest price, you must insist that no sections are left standing about, but that each case or upper story, is finished and covered up, before another is opened. There are but two places for all that are found, either in the shipping case, or in the upper stories to go on the next hive. If you have been so careless as to have some of the fdn. starters that have dropped out, you had better send such sections to the children of some of your neighbors who do not keep bees. If you wish nice clean true work,

ALWAYS USE THE TIN SEPARATORS.

Although you can get sections that do very well as a general thing without them, the expense and bother of having even one in 50 bulged into its neighbors in a way that would prevent its going into the packing case, or having a comb built between, that must be broken before they can be separated, would with us, pay for the separators for the whole lot, especially as one set will answer for a life time, so far as we know. After the broad frames are procured, with the separators, the only expense is one cent each for the sections, and you are not obliged to go to this expense even, until the first lot are filled and ready to sell.

Is it not a satisfaction to have every pound of your honey sold the very minute you get it off the hives, and to have none standing around in the way, waiting for a purchaser? Such my friends, is our situation at this very minute, and we look over the hives every three or four days, to get out the finished sections.

If you are using the chaff hives, or if you have only a few hives, or if honey is coming so slowly that only a small part of the sections are ready to remove, it will be your better way to lift the frames, take out the filled sections and replace them with empty ones, without brushing the bees off at all. If the sections are set down near the entrance, or if more convenient, on the top of the frames you have just examined, the bees will be nearly all off as soon as you are ready to close the hive. It is a very easy matter to take out the finished sections and leave the others, when you once get the hang of it. You can get out the first 2 inch frame without killing a single bee, even if you do not have one brood frame above, if you are careful. Stand this at one side of the hive in the shade, or in an empty hive if robbers are about much, and then proceed to lift out the next one. Now there is a very convenient way of supporting a frame, while you are cutting out or inserting queen cells, removing a queen for caging, clipping a queen's wings, removing section boxes and a variety of other purposes, and to be sure to make it plain, I will give you a diagram.



Let A B C D, represent the hive or the upper story of a hive; the frame of sections is shown with one of the ends of the top bar resting in its usual place in the rabbet, while the bottom bar of the frame rests on the opposite rabbet. One advantage of this method of support is that the bees all or nearly all, will run off down on to the frames below from the lower corner—shown by the dotted lines—and we thus avoid having them scattered about on the ground. It is very plain, that you have every facility in the world, for getting out the upper corner sections, at E; if those adjoining it are finished, they will come out equally as easy, and there will be no danger of any of the rest sliding out of place while you are doing it, for they are held securely by gravity; when these are all out and their places supplied with empty ones, you are ready to take those from the other end in the same way. If the bottom sections are all filled before the upper ones, simply turn the frame upside down; your frame is held securely, and you have both hands to work with. When done, put in place of the first removed, and so on until the whole are finished. With the chaff hives, nothing can work nicer, and in them we find the sections in the upper tier filled just about as soon as the lower, and the outside frames, just about as soon as the central ones. The 80 sections are none too much for a strong colony. We find very little advantage in using sections in the lower story, so long as plenty of room is given above. Of course the side storing ones would be filled very quickly, if we gave them no room above, but with the L. frame, I am inclined to think it will not be worth while to use both side and top storing boxes at once.

Of course you will be methodical enough to have your shipping case by your side when removing sections, that you may put them in their places as fast as they are removed. We can not afford to handle things unnecessarily, to say nothing of having our work scattered about, and in danger of being forgotten or tumbled down in the dirt. When you have your cases filled, tack on a shipping tag, with *your own* address on it, as well as the address of your honey merchant, and it is ready to go. We have at this date, July 13th, sent off a half ton, and all has been delivered safely.

As a section box 4¼ inches square, by 2 inches thick weighs just about one pound, we think this size is going to take the precedence over all others. We have tried them still smaller, but the bees seem loth to put honey into anything very much less in size; some 2½ inches square, were very well filled, but it was only after they had filled all the larger ones placed in the same hive.

KEEP YOUR HONEY CLEAN AND FREE FROM STICKINESS.

Do not take a single section from the hive until every cell is sealed, and the honey clean and dry. Each one should be as clean and perfect as a newly laid egg and there is no trouble about having them so, if you do not yield to the temptation to take any that are *almost* finished. Just as surely as you send cases to market with the honey dripping and daubing every thing they touch, just so surely will you have to take up with an inferior price for your crop; do not rest satisfied until you can show as nice goods in your line as any other person in the business. You will get along just as fast, by keeping everything neat and tidy. If you should be so awkward as to get some of the comb broken and the honey running, just place all the leaky sections in a hive for a half hour, and the bees will clean them all up, empty all broken cells and clean up better and with more economy, than *you* could ever do it.

Lest this notice should induce a great many to write to Messrs. Stair & Kendel to sell their honey, I would remark that it will be of no use probably, unless you have something in small sections of about one pound each, and put up as neatly and nicely as I have described. Nice comb honey in boxes is quite plenty at 15 cents, in many places.

In order to test the shipping qualities of our cases, as well as the markets in our different cities, we sent a case, such as we have figured, to Cincinnati, one to Chicago, and one to New York city. They had no protection at all, but all went safely; and I know of no reason why a glass case of honey should not have as careful treatment as a basket of peaches, or a crate of strawberries. Chicago and Cincinnati, being full of honey, only offered 15c.; New York offered 18 and thought more might be given in a couple of months. All praised the case and honey, some of them extravagantly, and most of them wanted more. It is so clean and convenient for retailing that a brisk demand has sprung up at home, and it looks now as though we might sell a ton or more right in the apiary, without stirring a "peg" to hunt up a customer. My friends, we can sell our honey, our queens, aye, and our bees too, all in this very way, if we will keep fully up to the light we now have. Throw away patents, adopt one uniform hive, honey package, etc., and let those who choose to follow the old jumbled up way of doing things, hunt for customers, and sell at half price even then.

CLIPPING QUEEN'S WINGS. Provide yourself with a pair of keen sharp pointed scissors and you are ready for the work. You are not to touch the queen at all, or to frighten her in any way, but the clipping is to be done, while she is walking leisurely about the combs. If she gets frightened, runs, and tries to hide, you had better close the hive, and try to be more careful some other time. If your hive is properly made, so that you can open it without shake or jar, you will have no trouble in lifting the frame while she is laying, without disturbing her. With the slender point of one of the blades of your scissors, lift one of her wings, and clip off fully one-half, or if you choose, clip off nearly the whole of both the large wings, leaving the small pair entire. This latter plan, leaves her looking rather more respectable, than when only one of the larger wings is clipped. If you are undecided as to whether you wish your queen's wings clipped or not, see ABSCONDING SWARMS. If you ever find it necessary to pick up a queen, take her by the shoulders, and never by the soft part of her body.

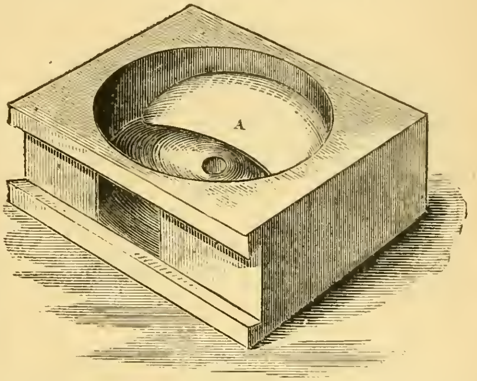
QUEEN CAGES. These are used for introducing queens, for sending them both by mail and express and for keeping them safely many times about the apiary, especially when we find several just hatched out in a hive. For introducing simply, many times, a cage made by simply rolling up a piece of wire cloth will do, but as this gives us no perfectly sure method of supplying the queen with food, I can but regard it unsafe, for queens have frequently been found starved when the cage was pushed between two combs of sealed honey, the bees having removed all the honey from around the cage, as they almost always do when a comb is crushed. To be on the safe side, it would seem best to have a good supply of food in the cage at all times. If this supply is given in the form of honey, there is almost always a liability of the bees and queen getting more or less daubed or smeared with it, and unless this can be soon removed by other bees they are sure to die sooner or later, for the breathing tubes located in different parts of their bodies, are easily closed by sugar or honey, if it is allowed to dry on them. Honey in a sponge has been one of the most successful ways of giving a supply for long journeys, but even this is apt to give them a dauby look and I have several times found bees, and sometimes the queen wedged into or under the sponge, dead. One of these was an imported queen, and as all the bees with her were spry and active, I could but think she had got entangled under the sponge, and died from this alone. Candy has been for some time, used quite successfully; the only difficulty, seems to be in providing just enough moisture and no more.

Besides the above mentioned wants, we want a queen cage that can be cheaply made, especially if we are going to sell queens for a dollar. I will tell you how we make them, and as it involves principles that should be observed in the manufacture of any article by machinery, I will give the details rather at length.

Get some clear pine lumber, dressed on both sides, to about ⅞ in thickness. Cut it up in lengths of 6 or 8 feet as may be most convenient. Saw these into strips 2 inches in width. With a very sharp centre bit, we bore holes in the strips 1⅝ in diameter; these holes which are bored so nearly through as to leave about ⅛ of wood at the bottom, are just ½ inch apart, that is, there is just ½ inch of solid wood left between each two holes. The holes can be bored by hand, but a lathe is much more expeditious. If the small hole made clear through by the spur of the centre bit is set over a small pin or nail every time the stick is moved along, they can be spaced very quickly, and very exactly. The pin is of course driven in the block of wood fastened to the movable centre of the lathe. We bore about 4 holes a minute, on an average. Now if we should tack wire cloth over these holes, and saw up the stick, we should have queen cages, but we are not nearly ready to do this yet. We do not wish to be to the trouble of prying out the tacks every time we wish to open our cage, and so we must make some kind of a nice little door for the purpose. As boring holes and hinging doors is too slow, if we can get rid of it, we make openings into all the cages at once, by plowing a groove the whole length of the stick, just deep enough to cut into the cages. This is quickly done with a carpenter's plow, and the groove is afterward made beveling so as to hold the sliding strip, by running the strips while held at an angle, over a buzz saw. Now saw some long thin strips of well seasoned pine, to just slide closely into these grooves, and when the cages are cut up we shall have a sliding door in each; but we are not yet ready to cut them up.

CANDY FOR BEES AND QUEENS AND——LITTLE FOLKS.

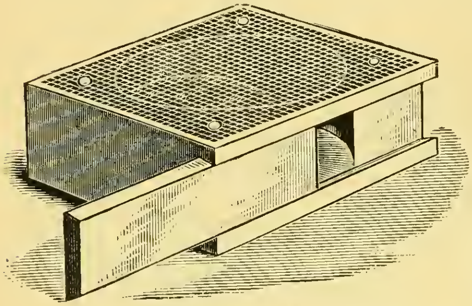
Get a tin saucepan, and put into it some coffee sugar with a little water—a very little water will do. Make it boil and stir it, and when it is done enough to "grain" when stirred in a saucer, take it quickly from the stove. While it is "cooking," do not let the fire touch the pan, but place the pan on the stove, and there will be no danger of its burning. Cover the dining table with some newspapers that you may have no troublesome daubs to clear up, and place your long sticks of cages upon it. Lay one in front of you, with the back edge where the slide is, slightly raised. Now stir your syrup in the saucepan, until it will be just right to pour into tins for "sugar cakes," and you are ready to ladle it into the queen cages with a spoon. Fill them about as full as our artist has shown in the cut below, as at A.



MANNER OF PUTTING THE CANDY IN THE QUEEN CAGE.

Go on to the next, and work as fast as you can, but be sure you do not get any hot candy on the wood except in the cages, and do not get any on your fingers. Our boy who does the work thinks you will remember after you have tried it about *once.* If your candy was right, it will be dry and hard on the outside when cold, but comparatively moist on the inside, and if you try to get it out of a cage, you will be satisfied that it will never get loose and "bump" the bees. To see when it is just right you can try dropping some on a saucer, and while you are at work, be sure to remember the little folks who will doubtless take quite an interest in the proceedings, especially the baby. You can stir some until it is very white indeed for her; this will do very well for cream candy. We have formerly made our bee candy hard and clear, but in this shape it is very apt to be sticky, unless we endanger having it burned, whereas if it is stirred we can have dry hard candy, of what would be only wax if cooled suddenly without the stirring. Besides we have much more moisture in the stirred sugar candy, and we want all the moisture we can possibly have, consistent with ease in handling.

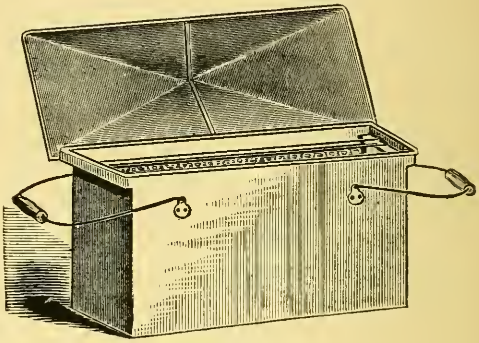
If you have not wire cloth doors and windows to keep out the flies, you will have to bundle up your sticks of cages as soon as you get the candy in them, or the flies will soon make them—unpresentable. After the candy is all in, dress both edges of your strips nicely, put them side by side, screw them in the iron clamp shown in SECTION BOXES, and saw them up into square blocks. Boys of 10 years old, will cut and nail on the tinned wire cloth with tinned tacks, and sandpaper the rough edges as well as anybody else. If you make them do their work well, your cages should look about like this:



QUEEN CAGE COMPLETE.

We have abandoned the all metal cages both on account of the expense, and because the bees would slip about in them more than in a wooden cage. These wood cages can easily be made for 5c. each, or 50c. per dozen, candy and all. For long distances cut the wood out so that two cages can be used as one, and for a still longer trip, let the bees pass into 3 or even 4 of them, of course sawing them off in longer lengths, and cutting a passage from one to the other. We think this cheaper than making cages of different sizes.

COMB BASKET. When the bees are gathering no honey, especially during the lull that usually intervenes between spring and fall pasturage, it is many times quite difficult to remove combs of brood, or open hives at all, without getting robbers at work. Any one who has had quite a time with robbing bees, will remember that for some days, it makes trouble to leave a comb outside the hive while we are handling others inside, without robbing bees getting at them, and soon they learn to follow us about and finally "dive" right into the unsealed honey the minute a comb is exposed. Suppose we do not have robbers, when we take a frame out of a hive, it is very convenient to have some place where we can set it down safely, while we look at the rest. If we stand them up against the hive, or one of the posts of the grape vine trellis, unless we are very careful, bees are killed, and if the day is a windy one, the comb is quite apt to be blown down in the dirt. To avoid all these mishaps, we have sometimes carried about an empty hive, but this is unwieldy, and does not keep away robbers either, unless a cover is carried with it. Comb baskets have been made of wood, but these are unsightly unless kept painted, and if any honey drips from the combs, it soaks into the wood in a way that is far from being tidy. The one shown in the engraving below, is made of light tin, and I believe meets all requirements.



COMB BASKET.

It can be readily carried from hive to hive, and the light cover is very quickly closed bee-tight, whenever occasion may require. Where extracting is done indoors, the basket can be used to very good advantage, for five heavy combs are about as many as one cares to carry at once. The combs should hang on metal rabbets the same as they do in the hive, to avoid crushing bees when they are set in hastily. Your tin-smith should be able to make you one like the above, for about $1.50.

INTRODUCING QUEENS. I do not know, my friends, how I can give any specific directions that will do for all cases, while bees do so differently at times, and different colonies have such different dispositions. I think it is possible to introduce any fertile queen to almost any colony, but it will require a close and careful study of the habits of each, and sometimes much time and patience. Lest beginners should be discouraged at the outset, I would remark that in perhaps the majority of cases the queen can be let loose at once, without any caging whatever. The point is, to determine when this can be done, and when it cannot be.

The very first thing to be determined is that your old colony is *certainly* queenless. Many will think if they have found the old queen and removed her, that there can be no doubt about it, but this is far from being true, for a hive quite often contains two queens, and very frequently two laying queens. When the old queen begins to fail, cells are started and when the young queen begins to lay, before her mother has entirely failed, they are often found laying side by side. If you should remove either one, and let your new queen loose, she would be killed most assuredly. What shall we do in such cases? Well, if the hive has an unusual amount of brood, I would look for another queen, and if not satisfied would wait 24 or 48 hours and see if they had started queen cells; if you see the queen cells started, you may be very sure there is no queen in the hive, although cases are once in a great while found in which they will keep on with the cells when a *virgin* queen is present.

HOW TO FIND AND REMOVE THE OLD QUEEN.

If it is at a season of the year, or during weather when robbers are about or may be expected to be, you had better do your work just about sunset, or so late that all the bees are in their hives. Have smoke in readiness, but do not use it if it can be avoided. remove the cover from the hive very gently, and do not have any snapping or jarring about your work.

Draw off the sheet of duck carefully, and then push the frames on each side, away from one of the central brood combs. If you can lift this out without making any disturbance, you will stand a good chance of seeing the queen at once; if you do not find her there, set the frame in your comb basket and examine the next. If the colony is very populous, you may not find her at all, after going over all the combs; in that case look them over carefully as you restore them to their places, and if you do not find her then, close the hive for a short time, and then try again. With Italians, you can often hunt for the queen a couple of hours or more, if you like, but with black bees if you do not find her the first time, they will usually gather in clusters so much as to make farther search impossible, and therefore you will have to let them get quieted down before you try again. Your eyes will very soon train themselves, as it were, to recognize a queen as soon as you get the slightest glimpse of any part of her body, and during the season of queen rearing, the effort required to spy them out quickly is such that I often dream of seeing queens, and picking them out, all night long, after a busy day in the apiary.

I rather prefer to pick a queeen up by the wings, but if you can get her securely by the shoulders it will do very well; do not get hold of the soft part of her body, or you will be pretty sure to do her injury; if she is a smart active queen, she will be very apt to bite vigorously, and a beginner might be tempted to let her go, doubting the statement so often made that queens never sting when caught. Do not be alarmed, but put her into a cage, and keep her until you are sure your new queen is safe and laying. Never kill a laying queen, until you have one safely laying in her stead.

The hive is now presumed to be queenless, but if our new queen is a very valuable one, we will put her in the cage on top of the frames directly over the cluster, until queen cells have been started. This will usually be in 24 hours. Open the hive very gently as before, lift out one or more brood combs, until you find cells enlarged, something like the cup of an acorn, and containing a much larger quantity of the milky food than is ever given a common worker. We can many times recognize where a queen cell is to be started by this extra amount of food, before we can perceive any change in its shape. The hive is certainly queenless, and we are so far safe; if the bees seem good to the queen we are ready to let her out. When you first turn back the duck, if the bees are clinging in hard knots to the wire cloth, making a kind of a hissing noise as if they would like to tear her in pieces, you certainly must not let her out, and it is rather unsafe to do so, so long as there are a great quantity of bees piled up over the cage. If it is safe to release the queen, the bees should be walking about as usual, displaying no unusual excitement, and the bees on and about the cage should be offering her food in their usual way, and with the deference and respect they usually pay a queen. If they do not do this, keep her caged until they *do* get quiet and respectful. Very often they will receive her thus at once, and it may in extreme cases require a week.

HOW TO RELEASE THE QUEEN.

Place the cage back on the duck, so that the queen and bees as they crawl out, will have to pass over two or three inches before they reach the combs. Have your smoker ready, but do not use it unless compelled to; as she comes out, they will probably come up to see her and get acquainted, and you need not be alarmed if some of them climb up on her back, and walk over her in quite a rude way for receiving visitors, if they only do not begin to try to use their stings. If they do, use a little smoke and and cage her again. If they permit her, after a little looking over, to pass on slowly toward the combs, you can let her go down safely; but if convenient, I would give her another "look" after about 20 or 30 minutess. You will find her without trouble, by the eager throng that surrounds her, to make her acquaintance. It may be well to see if she is all right and laying, next morning, for I have known them to treat a queen very well at first, and then find her in a ball of bees a half day afterward. Sometimes this "balling" kills the queen in a short time, and again she may live while thus fettered for 48 hours, or until they get over their frenzy and let her go. I have known queens to have all their wings and some of their legs pulled off in such encounters, and yet do good service for a year or two afterwards. We usually use smoke to make these bees let go of a queen, for if you try to pull them off they are almost sure to sting her. Dropping them into a cup of water will get them off safely, and is often the readiest means at hand.

Many plans have been given to induce the bees to desist when they seem bent on this kind of mischief, such as taking away all their brood, removing all their combs and allowing them only the empty hive, smoking them severely with tobacco, etc.; and although all these remedies answer well at times, I think it just as well to keep the queen caged, providing she has plenty of food in the cage and the bees are not allowed to hatch a new queen in the hive; for if they once get a young queen of their own, it is out of the question to get them to accept any other until she is removed.

The only objection I have heard to this plan of introducing, is that the queen may fly away; but to prevent this I would always have one wing clipped. To sum up, I would say let the bees have the queen just as soon as they will receive her; it may be at once, in 24 or 48 hours, or it may be a week. I have within a few days taken a laying queen from one hive and had her laying in another within two hours afterward. If you have a queen that you do not value, it will be an excellent plan for you to practice, by seeing how many stocks you can introduce her to without caging.

ALBINOS.

You seem to think the Albinos are nothing more than light colored Italians. If you will rear a queen from your imported stock which will produce bees like my Albinos, I will give you for the same ten dollars ($10). D. A. PIKE.
Smithsburg, Md., July 14, 1877.

In reply I would say that I have purposely uncovered the hive of albinos, almost every time I have had a visitor well versed in Italians; after they had examined them and said nothing, I have asked if they discovered anything peculiar about the bees, and no one has yet been able to say there was. When I declared they were albinos, and told them to notice the whitish fringe, some would agree there was a slight difference. Several queens have been reared, and they are remarkably yellow, in fact yellow all over. Those who have a liking for yellow queens had better send to friend Pike. The bees are certainly in no way remarkable as honey gatherers, and I think they hardly equal darker bees; a farther test, however, may show differently. The drones are, all we have seen, precisely like other drones.

I HAVE this month 2227 employers. I hope you will conclude to keep on hiring me.

CLAMP FOR MAKING SECTION BOXES.

We omitted to say in regard to the clamp for making section boxes, on page 223, that it should be made to hold an even number of strips, say 50, 75 or 100, that you may be able to get out the number wanted without laborious counting, or a liability of making mistakes. If the sections are ⅛ thick—we usually make them a little more—your clamp would hold about an even hundred if made so as to enclose 13 inches. Ours are made of iron, ¾ by one inch; the screw should have a strong deep thread, and the washer, B, should be riveted over so as to turn freely against the shoulder on the end of the screw. Your blacksmith should charge you about 75c. for a good one.

TOO MUCH HONEY, ETC.

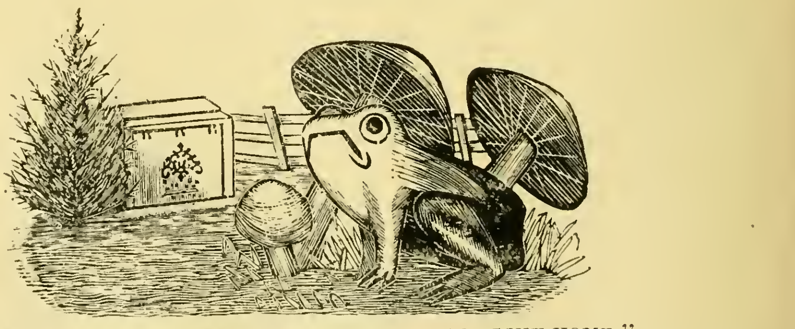
I am pleased with the fdn. you sent me, both white and yellow; my bees taking to it and working upon it beyond my expectations. I have built up second swarms with it so that they are strong and ready for work upon buckwheat, which will blossom with us in a few days. The largest swarm I had this season came out from a first swarm, on the 19th of July, and are working well. I have now 9 swarms; had two to start with in the spring, and with the aid of your fdn. succeeded in getting them in pretty good condition, and have taken some comb honey. What shall I do with a hive of bees that have filled the brood nest almost full of honey? I have no extractor.
H. H. SCHWILLY, Yorkville, Ill., July 22, 1877.

Take out some of the heavy combs and put in their places frames filled with fdn. The queen will fill them with brood even though no honey is coming in at all.

After the part of the journal containing "Humbugs and Swindles" was printed, the following came to hand.

Since writing to you I have received a letter from Mitchell, saying that he has been away from home, and that he does not sell hives without first selling the right. He returned my money, so I was a little hasty in my condemnation. H. M. MORRIS.
Rantoul, Illinois.

If Mr. Mitchell has really commenced a different way of doing business, we shall be most glad indeed to make it known, for the complaints in regard to him have been one of the most unpleasant features of bee culture for years past. This is the first time we have ever heard of his having returned money, or anything else, more than promises that were never kept.



"BE IT EVER SO HUMBLE, THERE IS NO PLACE LIKE HOME."

Very likely the Lawn bee hive in the distance has much to do with making the humble home of our "big eyed" friend so especially pleasant, and perhaps the heavily laden bees that do tumble around the entrance at nightfall, with the drooping branches of the evergreen so conveniently near, may be an additional "tie" that endears that particular vicinity. If history tells us aright we believe the owner of said hive finally, once upon a summer's eve, dispelled all these fond reveries, and demolished "home" and contents just because of a slight "onpleasantness" between the toad and the bees. One would have thought "what is fun for you, is death to us," would have been remembered, by so near a relative, but alas, it seems it was not, and so he——died.

GLOVES IN THE APIARY.

EDITOR GLEANINGS:—In some number of your valuable Journal, not more than one year ago, I think, you stated that unless you should soon hear some favorable report in relation to the use of rubber gloves in the apiary, you would feel compelled to class them with "Humbugs and Swindles." By the use of one pair I am fully persuaded that it is exactly where they should be classed.

Rubber gloves may be exactly suited to the purposes of submarine divers, but of all known substances from which gloves have been, or can be manufactured, I can conceive of none more utterly unfit for the purposes of the apiarian, than rubber. Of all uncomfortable garments that I ever undertook to wear, at any time, under any circumstances, rubber gloves in hot weather, are the worst.

A little less enthusiasm, and a little more reflection might possibly cause me to make an exception in favor of a bad fitting shirt, with a neck band that chokes. Nothing else.

Besides, they are not durable. Adhesion to propolis very soon tears the rubber from the cloth lining.

'Tis entirely practicable to handle bees with impunity with naked hands; nevertheless, I usually make use of gloves, and for two reasons. First, because it is much easier to slip gloves on, and off, than it is to get the propolis off my hands after having taken out a few frames with bare hands. Another reason for using comfortable well fitting gloves, is, that with them, I can work more expeditiously.

Gloves of thin, yet *firm* leather, are the best of any thing I have yet tried. Real genuine dog-skin gloves, for example. Old kid gloves, even, answer well. Gloves of any fabric that will stretch, when being detached from adhering propolis, are almost unusable. I should like to try some gloves made from heavy sail cloth, or linen duck, or perhaps what would be still better, linen or cotton serge, such as is frequently made into summer shoes. Who will make such, expressly for bee-keepers?

G. E. CORBIN, St. Johns, Mich.

If you pinch a bee, or even set your fingers on one of its feet, you will be pretty likely to get stung, and I am glad our bees can and will sting, whenever we are so careless as to come into their houses and tread on their toes or infringe on their rights in any way; for bees have rights as well as——women. If I understand the matter, gloves in the apiary, are for the purpose of enabling their keeper to tread on the rights of the bees with impunity, mash them, pinch their toes, or to be as awkward, careless and bungling, as he chooses. Bees are very careful and nice in their work, and when one invades their home, they kindly permit us to upset things, providing we don't make *too* much noise and racket, and go to work setting everything right, after we get away, with a patience that to me, is really touching. Now with my naked fingers, I can feel whether I am touching a bee, even if I do not see away down into the hive; I can also tell by the sense of touch, when the frames are at the proper distances, and if I begin to press on the foot of a bee, I can tell by his buzzing against my finger, that he desires me to move along, for that is his own person I am getting hold of, and I invariably have warning, before the sting comes. The same is the case in handling sections, and it seems to me "awful" to think of going into a hive with gloves on. I very rarely get my hands stung at all. Late in the fall, we have the same trouble with propolis but I think I would prefer the propolis, to the gloves, by considerable. Benzine will remove it readily. The *rubber* gloves, seem to be a downright fraud; not one purchaser has reported favorably of them.

◆

The comb fdn. machine I bought of you works splendidly; it makes better work than the sample you sent. W. R. BISHOP, Sherwood, Wis., July 16.

Heads of Grain,

From Different Fields.

DID you ever try introducing queens at the time of hiving young swarms?

I have been trying to get subscribers for GLEANINGS, but have so far failed. Some men will lose $5 sooner than pay *one* for a paper.

D. G. PARKER, St. Joe, Mo., April 30, 1877.

You can introduce almost any queen to a new swarm without trouble, if you take their own queen away; and we have never found it necessary to cage them at all. It is almost an every day occurrence for us to hear from people who have lost money by patents, and who have invested in things out of date, just because they were not posted; others send us more than the present prices for extractors, corners, etc., necessitating our sending their money back; and one who had just one colony of Italians, thought he could not afford a bee-paper, but immediately afterward, hived a large swarm from them, that went to the woods in the afternoon of the same day. Our June No. mentioned particularly the importance of clipping the queen's wings, and yet all these people say they cannot afford a dollar for a journal.

I have 50 swarms. Bees wintered well in cellar but not in bee house. This spring I am satisfied that the bees breed faster in bee house than outside, but it seems impossible to raise and mate young queens in the same.

H. H. ROSEBROCK, Owatonna, Minn., June 23d, '77.

We presume our friend refers to a house apiary. We have had just as good success with queens in the house, as with those outside. Are not your entrances too nearly alike friend R.?

TOO MUCH HONEY.

I have read a great many reports from others of spring dwindling but this spring is the first that I have had any experience in the matter, having lost two that were as strong (apparently) as any, but as I lifted out the frames and found but little empty comb I came to the conclusion that it was caused from want of room late in the fall for them to raise young bees to take the place of the old ones that so soon die off in the spring; what do you think?

H. A. PALMER, Madora, Iowa. July 16th, 1877.

We can hardly think your bees or any others ever had spring dwindling from having too much honey in the hives judging from the experiments we have made. Last fall several rather weak colonies were put on combs of solid sealed honey on purpose to test the matter, and in some cases they were obliged to build bits of comb at the ends of the frames to contain the honey removed in order to get clustering room, but instead of injuring them, it seemed to be just what was needed. These stocks were never in danger of clustering at one side of the hive while their food was all at the other, but as soon as they began brood-rearing, the sealed honey and sealed brood, ran together so that it was sometimes puzzling to tell one from the other. As soon as they began work in the sections the honey was carried above out of the way, and if can have our bees in this shape every winter, we (and the bees too) will be perfectly suited. Old bees, and too much honey, have been quite a favorite way of explaining losses. Was it guess work on paper, or the results of really sharp looking into the hives?

Our honey gathering here is about over. I extracted June 20th to 23d 1500 lbs. (mostly poplar) honey from 23 stands. Had it not rained for two weeks almost daily, could have extracted earlier, and by this time have taken as much more of white clover, &c. As it is, the combs of hives that did not swarm are from half to two-thirds full. How will it do to make artificial swarms from strongest hives after honey gathering is over, putting them on these partly filled combs? How can I get fdn. built into comb when bees are not making honey? What is the best way of making nuclei for queen rearing in fall?

O. **Brumfield**, Brumfield Station, Ky., July 3, '77.

It will do first rate to divide strong hives after the honey season is over, but be sure you bring them all up strong before winter. By feeding cheap sugar, you can get fdn. built out very fast and at small expense. Yellow or brown sugar is cheaper than white. Glucose sugar will probably be cheaper than either, but it needs some experimenting with; who has tried it?

Make nuclei in the fall, precisely as we have directed for the summer, but be very careful about robbing, and about uniting bees from different hives.

POPLAR.

The poplar tree of the South that produces honey is the *Liriodendron Tulipefera* natural order *Magnoliaceæ*. We call it yellow poplar here. It produces very nice lumber. I make my frames of it. It is not good for hives unless well painted as it shrinks awfully in dry weather. S. D. **Dodge**.

Chattanooga, Tenn., July 7th, 1877.

We half suspected this poplar was our common whitewood, but several things seem to indicate otherwise. It is known by all three names, tulip, whitewood and poplar. Just before clover opens, we often find a dark very thick honey; this we presume is the tulip honey. We have seen it stated that the large lily shaped blossoms, sometimes contain a tablespoonful of honey.

I bought 2 swarms of bees last fall and now have 4 good ones. They have cost me hives and all $30, and have not received a cent from them yet, so I do not feel like getting an extractor now. E. F. **Sibley**.

Spencer, Massachusetts, June 20, 1877.

My bees will work on the fdn. before they will on old comb out of hives that the bees died in last winter. I thought to do a good thing, buying such and fastening in frames, but I don't want any more if I can get the fdn. V. **Page**, Kennedy, N. Y., June 25.

The fdn. which I got from you this spring gives perfect satisfaction. Queens lay in it just as readily as in natural comb. The extractor also works well.

John Dickinson, Milwaukee, Wis.. July 6, '77.

I am much pleased with the fdn. which I rec'd from you, some six weeks ago. The sheets were soon drawn out and made beautiful straight walls. I have extracted from some of them the third time. Three sheets were filled with eggs that hatched workers. In future, I shall use only worker fdn., then I can use it in lower story if I wish to. I rec'd a dollar queen from C. C. Vaughan, Esq., Columbia, Tenn., the 27th of May, her progeny are beginning to labor out-doors, and have the marks of purity. I am delighted at the success, and have ordered from him another one.

We are having a good yield of honey from poplar, persimmon. holly, (an evergreen in our bottoms), and wild grape blooms. My bees are now gathering from my buckwheat. Our fall honey is from the goldenrod, which makes a delicious honey.

The trees have been literally covered with honey dew, but strange to say, I have never seen a bee gathering it. Some fell in large drops, on a cloudless day —no aphides about it. C. C. **Shipp**.

Spring Dale, Miss., July 5th, 1877.

I notice there is great mortality among bees in some portions of our State, and the loss not only falls upon the novice but upon the most experienced bee-keepers as well. Now I would like to inquire in what kind of a cellar the bees were wintered. I think there is a great difference in the kind of soil. A very porous, gravelly or sandy soil will make a better cellar for wintering bees than one dug in hard pan or clay; the latter holds moisture, causes mould, and needs the most thorough ventilation. I would like to compare notes with those who have lost, and see if we can blame the kind of cellar. J. H. **Martin**.

Hartford, N. Y., July 5th, 1877.

The white fdn. is very nice; the bees work it out to an almost impalpable thickness, but I do not think they can work it early in spring or late in the fall as well as the yellow. Am highly pleased with your fdn.; I have distributed some samples and think you will get some orders.

Am getting some honey, but slowly, not more than one week of *honey weather* here this season. Basswood has come and gone, a total failure. yet I have one hive working steadily in 40 boxes 4x5½x5½, and will hang some sections to-day noon, *a la Root*. Bee-keeping with me is a pastime although it has paid well for the money and time. J. M. **Shuck**.

Des Moines, Iowa, July 14th, 1877.

Blasted Hopes? Yes sir! My cellar has a capacity for 100 hives, and I hoped to keep my apiary within that number. It has now multiplied much beyond these figures (131) and the hope of crowding them all into that cellar is—is—"*non est.*"

D. P. **Lane**, Koshkonong, Wis., July 14th, '77.

CHAFF HIVES.

I have been making some chaff hives and in trying to simplify the work did away with the offset inside making room for 12 frames above and below, all running one way. I provided for getting in the lower ones by a groove as Cook suggests, but am not well pleased with its working. Is there any objection to making the lower story as large one way as the upper and so making two sides straight? Would that be too much room for one queen to occupy profitably? As they should last many years and it is much work to make them, it is an object to get them convenient and profitable as well as easy to make. Would sawdust and shavings from a planing mill be as good or better than chaff to fill? D. C. **Underhill**.

Seneca, Ills., July 7th, 1877.

So large a brood chamber as you mention, we have found unprofitable, for even if the space is filled with frames of section boxes, they will not be used so long as they have plenty of room above. We have given this matter a pretty thorough test, and would not have the brood apartment more than wide enough for 10 L. frames, and even then, unless the queen is unusual, we would use section boxes at the sides in summer, and chaff cushions in winter. We have now in use, a chaff hive of which the inside is a cube of two feet on each side, the brood in the centre, and sections all round and above it. The greater part of the honey is stored above the brood; after they were given plenty of room above, the sections at the sides were pretty nearly abandoned.

Sawdust and fine shavings are considerably used in place of chaff, but while no one seems to think them better, several, with friend Townley among them, seem to think them not as good. About the best results we have seen with chaff, have been where the bees gnawed through the cushions, and let the chaff all over and in among them, like a nest of mice in a straw stack, for all the world. The chaff did not seem to annoy them in the least, and they reared brood briskly, right through the very worst kind of spring weather. While I should hardly be prepared to advise such a course of proceedure, as a general thing, I do feel every day convinced of the importance of having the chaff or shavings as close to the bees as we possibly can get it.

I had a swarm of bees come off May 21st, and another May 30th. I put them in Simplicity hives; they are all very strong but they have not yet commenced to build comb. What is the matter? The weather is now and has been very wet and very cool; has that anything to do with it? They are black bees.
H. BETTY, Medina, Kas., June 19, 1877.

They get no honey, is all that's wrong, and if not fed under such circumstances, they often starve.

I am not banished to the column of blasted hopes yet. My 12 hives that I saved through the winter, are now roaring in 36 good colonies. Some have given me 15 lbs. comb honey, and one gave me one swarm and 36 lbs. of box honey. I am preparing to move them into the sunk lands in July, and I have a wild scheme in view, of raising queens and capturing wild bees for their subjects. I will report when I get in operation, but shall not tell how it is done, lest some one may capture your bees or mine, instead of wild ones. A. J. SAVAGE, Lakeville, Mo., June 25th.

We have tried trapping bees, friend S., but it always turned out that we could get bees and queens cheaper by the regular plan of raising them in the apiary, than we could by trapping them, even if the bee trees were already found and given to us.

Prospect never was better for a good honey season; honey is coming in rapidly now. Basswood is going to be full of bloom, and white clover is abundant. Showers occasionally, and all nature is lovely. Your humble servant is awful busy. J. H. MARTIN.
Hartford, N. Y., June 7, 1877.

We suspect, friend M., that your being "awful busy" is the secret of the whole of it, and if such *is* the case we hope you and your bees may always be thus busy—and happy.

ABSCONDING.

On the 27th of May my bees commenced to swarm. I successfully hived 3 or 4, and had just hived another when a swarm issued and without settling went right into the last named swarm; both being very large the hive would not hold them, and consequently I was unable to close it at night. Both swarms remained for two days, and made a good deal of comb, when they suddenly left, I suppose for the woods. This has happened four times this season, making a loss of 8 first swarms. How can you account for it? Could I have done anything to prevent their leaving, or should I have endeavored to separate them at first? In all cases the hive was so full that it could not be shut down.

UTILITY OF SAWDUST.

I have adopted your plan of having sawdust in front of hives, and find it answers admirably. In two instances I have picked the queen up when bees were swarming, and placed her among the swarm, where had it been in long grass I should probably not have seen her, and as she could not fly, she would to a certainty have been lost. FRED PENFOLD.
Richmond, Quebec, June 25, 1877.

You did a very unwise thing in letting the bees remain in a hive so small that it would not hold them, whether it was one large swarm or two ordinary ones. An upper story would probably have made them all right, but a comb of brood would have been much the safer way, as we advised in "absconding swarms." It is generally thought most profitable to divide these double swarms. The loss of 8 first swarms, is certainly paying pretty dearly for a little experience. When you saw a second swarm going in with the first you should have carried the hive away to a new stand, and if that did not separate the queens, you could have easily found one of them. Where your hives are light and easy to handle, like the Simplicity, it is an easy matter to separate or divide colonies by moving them to a new location. We agree with you in regard to the sawdust.

Prof. A. J. Cook:—In one of our late reports of "State Board of Agriculture" you enquire if any one has observed the occurrence of honey dew in this part of the State. I would say that I observed it in this township about the year 1852, on the S E. part of Sec. 3. It extended over a good portion of that part of the section. I don't remember ever observing it before that date, nor since. The leaves of the trees and shrubs almost dripped, they were so thickly covered with that singular substance. H. A. ATKINS.
Locke, Mich., March 26, 1877.

On the 8th I removed 4 black queens from a colony, and on the 9th gave them a queen cell from my imported mother, which hatched on the 11th. To-day, the 16th, at 3½ o'clock, they have thrown out a large swarm with the young queen. There are natural queen cells formed in the old hive, but neither eggs or larvæ in them. I have given them a card of brood and eggs from imported mother. Is this kind of swarming unusual. T. T. DELZELL.
Hersey, Mich., June 16, 1877.

Such cases as you mention occur sometimes, especially when honey is coming in rapidly, and it may be well at such times to destroy all the cells that have been started, after liberating the queen. Mr. Langstroth always advised cutting out the queen cells when a queen had been introduced. Yours was a case of what would be properly termed "after swarming," although no first swarm issued. Your having removed the old queen virtually amounted to the same thing.

What do you think of transferring them into new hives after I get one swarm each from them? Would you advise me to buy an extractor this fall taking from all my bees their fall honey and feeding them sugar for winter?
I have built a house 7x9 stuffed with sawdust 4 inches deep. Will it do to put 12 colonies of bees in through the winter without any ventilation?
CHARLES P. MULFORD.
Berkshire Centre, Vt., June 17th, '77.

If you should undertake to transfer a hive after it had swarmed, you would very likely find so much honey in the way that your combs would all mash down in a heap, after they were cut loose from the old hive. If you have old stout combs without much honey in the way, yerhaps you might get along with little trouble. You can empty the pieces with an extractor, so as to do it very easily. At the present prices of both sugar and honey, we would not extract to feed sugar.

At present we favor out-door wintering, and would much rather risk so small a number of colonies out-doors than in your house. Have them well protected with chaff or straw, close up to the cluster of bees. Your 12 colonies would hardly need any special provision for ventilation.

Bees doing well but very cross; would like to eat me if they could. I like the Simplicity hive very much; have only one other in use, and shall transfer that in August. J. J. WHITE, Clinton, Mich., June 26.

We knew bees were fond of sweets, but we never before heard of their trying to eat up their keeper; maybe you have been spilling honey about.

I rec'd the fdn. and put it into 5 frames the same evening—at 8 A. M. this morning I examined them and found 3 filled out complete, and the other 2 progressing finely; some honey stored in all—this in a queenless colony. Before I sent for mine all bee-keepers in our country seemed to be under the impression that the only recommendation it had was from the manufacturers, but I assure you I believe every pound worth $3.00 to any person using them properly. I will not be without it if I can get it when wanted.
B. GRAHAM, Johnstown, Pa., June 25th, 1877.

To combine the two (see page 133, 1st column, GLEANINGS for May), why not use here and there 5 pin traps? Numbers of these might be easily and cheaply mounted in groups or rows, at any vacant spot in your house apiary.

Speaking of the house apiary, I should recommend sheet zinc for the roof, which would require no painting, answers well and does not rust. I use it also to rest the ends of my frames on, in the hive. It would beat tin for putting in joints of boards for covers, as it does not rust. I like your A B C much.

CHAS. E. FLETCHER,
Luscombe, Dawlish, England, May 17, 1877.

We have thought of the trap, and similar arrangements, to let stray bees get out of the house apiary, and will make a trial of it; although we fear they will not use them, for they seem in warm weather to stand round on the walls and ceiling very contentedly, without trying to get out.

Zinc costs considerably more than tin in our country, per square foot, and we can hardly agree with you that it does not rust. That zinc and galvanized iron are poisonous for utensils containing liquids used for food or drink, is now pretty thoroughly established. This latter point I have just decided to my perfect satisfaction by a practical test. Zinc or galvanized iron should never be used for honey extractors, or for holding honey. Thanks for your kind suggestions, friend F.

The curved end knife you sent me is a perfect beauty. Don't you think seven cents a discouraging price for choice extracted honey? That is what a prominent dealer in the West paid me for a lot of seven barrels recently.

WM. H. WARE, Bayou Goula, La., June 18th, '77.

EARLY SWARMING; DISTANCE ITALIANS FLY, &C.

I always winter on summer stand, never lost a swarm in frame hive in my life, and have been keeping Italians for five years. I have 18 stands and work for box honey, not increase, as I have no ground room for more. Have in ordinary seasons taken 32 four lb. boxes of nice box honey from one hive and two artificial swarms in Aug. and Sept. I use large 10 frame hives and have strong stocks. I have one stand of blacks as strong as the Italians are, but get almost nothing from them except cards of brood for building up weaker ones. Have one stand of hybrids some better than blacks, yet inferior to pure Italians. Last winter was a fatal one to very many bees in Sussex Co., some of my neighbors lost one-half to three-fourths of their stock, others had to feed. I lost one swarm which came out on 16th of Sept. last year and smothered in a drift of snow this spring with plenty of honey to have carried it through; it was in a little box and I took no care of it or would not have lost it. My Italians commenced swarming April 12th; 6 or 7 weeks before I heard of a swarm elsewhere; my last was on May 19th. My Italians being the only ones in 10 or 12 miles, have been seen in our mill branches gathering pollen, &c., 4 miles from town or from home.

L. W. BETTS, Millsborough, Del., June 30th, '77.

THICK AND THIN HIVES.

I notice you have discarded the hoop hive; is the closed end Quinby frame, open to the same objection (too much ventilation)? if not, how thick should the end pieces be? Would ¾ inch do? "ENQUIRER."

Milwaukee, Wis., July 2d, 1877.

I think the Q. hive without outside case, if made of half inch stuff, would be objectionable for the reason mentioned, especially in spring and fall. Where the hives are made of thin stuff, and made with open joints, we have found the combs next the outside left empty, or only partly filled. Where the section boxes are well protected as in the house apiary where we have them covered with chaff cushions even during this July weather, we find them filled and sealed over much the quickest. During summer weather thin hives may do very well, but as a general thing we much prefer those of inch lumber. The chaff hives bear the direct rays of the summer sun, the best of any we have ever used. We find no trouble with the hoop hives for wintering, but the difficulty is during the season of comb building. I would use an outer case for the closed end Q. frames.

I often hear farmers say that keeping bees and fancy poultry was for another class of people, and not for farmers; and a great many who keep bees have got the old straw hive and brimstone their bees in the fall; others keep the common dung hill fowl and say it will not pay to get another breed. A year ago I bought a trio of white crested black Polands and last summer I raised 175 young chickens for which I refused an offer of $200. Four years ago I commenced keeping bees; in the first place I tho't I would keep them only to have honey for my own use, but they did so well that I sold the first year honey to the amount of $50, the second year $56, the third year $60, fourth year $45, and now have 9 colonies of bees left that are worth $100,00. Why can not other farmers do the same? D. N. KERN, Shimersville, Pa.

I bought two colonies of Mrs. Grimm, increased to five and took 125 lbs. good extracted honey worth $25.00. Wintered by placing a box a few inches larger each way over them packed with buckwheat chaff. They wintered finely. Before the middle of May their hives were crowded full of bees with so many drones hatching I feared for my honey crop; when lo, out came the bees crowding and dragging out the drones from a few dozen to a full pint from a hive. Did you ever before hear of bees killing off their drones in the spring? What made them do it? S. C. PERRY.

Portland, Mich., June 4th, 1877.

Bees very often rear a large number of drones, during fruit bloom, especially when it yields abundantly; and during the dearth of pasturage that almost always occurs before clover comes out, they are frequently killed off as in the fall. This is quite an expense it is true, and we should either take means to prevent their being reared, or keep up the supply of food during the interim, that they may be ready for early swarming or queen rearing, without the necessity of rearing a whole new crop of drones. It is quite common for them to be killed off as you mention.

One word more for fdn. We have traded bees for old combs every spring, with our less fortunate neighbors, and know their value, but after testing fdn., being rather prejudiced against it on the start, on account of the cost, we have decided it to be worth more than the old combs. We never want another comb built without it. It pays, just to get all worker cells. J. C. & H. P. SAYLES.

Hartford, Wis., July 5th, 1877.

IMPORTED QUEENS.

While so many have complained about their imported queens I am more than satisfied with mine, she is certainly a beauty in every respect. I received her from J. M. C. Taylor. Last year I thought of renting a pew in "Blasted Hopes," but this spring my bees are in splendid order while nearly all of my neighbors have lost heavily from spring dwindling. I am on the top of a hill where the wind blew so during the cold spring weather that it kept my bees in their hives. At least that is my theory.

H. P. SAYLES, Hartford, Wis., May 17th, '77.

We agree with you exactly; not only have we had better success in wintering than ever before, since our bees were reared from the imported stock, but we have bees that work in the boxes without a single exception. We have until this season had black bees in our apiary, and our neighbors in the country who have them, have afforded us a full opportunity of testing their respective merits for box honey. The freshly imported stock are far ahead of them; in fact they frequently fill boxes at a fair rate, when the blacks are losing in weight every day.

Our Homes.

Seest thou a man diligent in his business? he shall stand before kings; he shall not stand before mean *men.*—Proverbs 22; 29.

NOW some people are naturally ingenious, others are naturally patient, still others are very accurate, without, an effort seemingly; but all these people have faults in some other direction probably, for no one individual ever possesses naturally all these desirable qualities, I believe. What shall be done? Shall we follow entirely the bent of our own inclinations, or shall we try to make up up by cultivation, what we lack naturally?

When I was a lad, music was one of the exercises of the school I attended, but in spite of all my kind teacher could say, I almost doggedly refused to take part in the exercises. I knew I could not sing, and I did not want to try. After a time, when I saw what progress my mates were making, and how they seemed to enjoy the work, for work it was most assuredly, I began to wish I too was one among them, but the same foolish pride stood in the way, and I could not think of going to my teacher, and telling her I was sorry and would like to be permitted to join with the rest, and have my education a well balanced and symmetrical one like the rest of the pupils. It is true, I did not feel the loss of not understanding the notes very much, for many years, but when I took the Sabbath school work, O how many times, has memory gone back to the time when I would not acquire the knowledge, I now needed so much. It was much the same with grammar—perhaps more than one of my readers have divined as much already—and I argued the matter with my parents until they were somewhat inclined to think grammar was not perhaps so very essential, just because I liked mathematics and some other studies better. I saw my mistake later in life, and partially made amends, but the penalty has to be paid now, when I am very anxious to give you my friends a journal that is at least respectable.

Some years ago the editor of our county paper made the remark that if one had good common sense, grammar was of comparatively little importance. I thought this a very wise saying at the time, but after having carefully studied the subject, and satisfied myself by actual trial how difficult it was to produce composition even tolerably free from errors, I came to the conclusion that I should be very poorly satisfied with the degree of perfection, judging by his paper, he deemed was all that was really needed. I would not have it understood that a person should excel in every thing, by any means, but if we are going to fill any position creditably, if we are going to demand high wages and have our services eagerly sought for, we must have a good general education to start with. I do not mean the education to be obtained at schools and colleges alone, but good common sense, and a faculty of being handy any where. When I see a college graduate undertake to drive a nail and unhesitatingly turn the point in such a way that it is sure to split the wood, I feel that his education has been of a nature that has not taught him how to make it practically useful.

One who is ambitious to command high wages, should be ever on the alert; there can hardly be a place where circumstances may call him, where he has nothing to do, for there is always something being done, that it will be worth his while to study. If you are waiting for a train, look about and see if there are not mechanics at work; while I would not encourage impertinence, I would adyise to be Yankee enough to talk with your fellow travellers. In making a trip to visit a bee-keeper, I rode a few miles with a man who proved to be a market gardener. He had made tomatoes a specialty and his little history of his trials and successes told in his simple way, was full of interest. He came to our shores a poor man, having every thing to learn, but willing to work. He had bad luck, failures and discouragements, very much like those we bee-keepers have to deal with, but he conquered at last, and the smile of pride with which he pointed out to me his own neat little home with its smiling gardens, all the fruits of the tomato business, was worth more to me than the last chapter of some thrilling romance, or the closing scene of some grand play at a theatre. The tomato story, had given me much useful practical knowledge, but the gas-lights and fiction that I used to think I enjoyed so much, left not one valuable idea comparatively.

Have you no taste for tomatoes and rural industries, driving nails and working in the hot sun? I have known people who had no taste for work of any kind, and yet I am very sure they had a taste for things that had cost others hard toil and labor. Were they happy in idleness and selfishness? If I am not mistaken, an idle person is always a selfish one; at least when I am idle—sitting still when I do not need rest, I am sure I am acting selfishly. It seems to me it is a kind of foolish selfishness too, for one who will not work, gets very little for himself, of anything that is desirable.

It is pretty difficult for a physician to make any progress in curing a patient before the patient will admit himself to be ill. And if we who are working for somebody else, unhesitatingly decide that the fault is all with our employers, and none of it with ourselves. that we do not get better wages, very likely nothing can be done in the way of improvement. I do not mean to say that employees are the only ones who need educating, by any means, for we are all of us employers more or less, as well as employees. If we are conscious of our need of improvement, or even if we are only conscious of having a need of more money, we are ready for work, that is if we have decided to pay the price, of "more money." It may be that after having done every thing in your power, your efforts will be apparently unheeded, and your pains will all be like casting pearls before swine. Be of good cheer my friend; you are by no means the first one who has become weary in well doing, and wondered whether it were really any use trying to melt hearts of stone. Your reward will come in due time, and it may come in a way quite unexpected.

Be on hand promptly, and let those who may be waiting for you learn to depend on you as on the rising of the sun. Be accurate in small matters, no matter how much the effort may cost you, and when you find it impossible to meet your appointments, notify the one who is depending on you as quickly as possible, and if you should happen to exhibit more zeal in small matters than is usual, or really necessary, do not mind it if you are laughed at. The laugh will very soon come on the other side if you persevere. If it is your business to sweep, do the sweeping so thoroughly that if there is to be *any* extreme, it will be on the safe side, for it is an easy matter to learn to do sweeping poorly or hastily, if you should be desired to do it in that way. When a hand can be found that will do his work well and thoroughly every time, even if he be not a rapid workman, it is a very easy matter to learn to do it fast. Be sure that what you do is done right, and keep your wits about you. We have just had a number of girls and women at work putting up section boxes, but every new hand would have to be told one or more times that the sections must be put into the large frames so that the strip of fdn. was on the upper side. After watching the matter carefully, every little while a section would be found upside down, and finally we were obliged to caution the hands at the apiary, against putting on any upper stories, without looking to see if the girls had not made some such blunders, because one such mistake, would result in having the honey running as soon as the upper story was taken off, and very likely the daubing of a whole lot of honey. Our errand boy, 9 years old, asked if he might put sections together; being in a hurry, I told him to go to work, and I would show him how, after awhile. He was forgotten, but when I went to look over his work, I did not find a single mistake in several hives that he had filled. The reason was that he had at a glance taken in the whole *purpose* of the work, and knew as well why the fdn. was *hung* from the top bar, how the bees got in, and how the frame full was hung in the hive, as he did why his eyes were located near the top of his head, instead of near his heels.

If you are going to be valuable, you must be observing; you are not only to know how the work is to be done, but just *why* it is to be done so. If you are desired to use any kind of machinery, you should as speedily as possible, learn all about the machinery. If your employer finds that you are smart enough to put it in repair when it gets out of order, instead of putting him to the expense of a machinist, and the consequent delay, he will be very likely to bear it in mind when it comes time to decide how much he can afford to pay you. Besides, where the person who uses a machine is in the habit of repairing it, he will be pretty sure to see that it is kept well oiled, and is not allowed to be kept running when it is unfit for work. Expensive machinery is sometimes allowed to run without oil, or with the screws or rivets loose, in a way that results in very expensive breakdowns, just because the persons having them in charge, were careless or indifferent about the work on which they were employed.

I am well aware that it is a much easier matter to tell what ought to be done, than to do it, and that it is easier to tell the faults of others than to see our own; but those who have fought the battle and come off conquerors, know that we can in time shake off these besetting sins, and that the victory is well worth all the toil and pains.

Are you disappointed in your expectations? Then school yourself to being more modest in your promises, and try to make it a point to do a little better than you agree. Are you constantly making mistakes? Do everything so slowly and deliberately that you can not blunder, and recognizing your weak point, endeavor by every possible means to avoid leaving a chance for mistakes to creep in. This latter point is one on which considerable study has been spent, and our railway and express companies have devised some very ingenious ways and plans to render mistakes almost an impossibility. I will mention a few of the devices and plans that have come under my observation.

Where certain tools are used by many hands, it is very difficult to have all remember to put them in their proper places. If a picture of the hatchet and saw are made on the wall just where they are to be hung, no one, not even the smallest child, can fail to understand where the place is. If the wall is white, the figure of the tool may be painted some dark color.

If you have many duties to attend to, and find you are liable to forget some of them, note them down on a slate, and make it a point to examine the contents of this slate once or twice every day. If you, during the day, think of something that needs attention, note it on a piece of paper, and if you have learned by past experience that you are likely to forget all about your paper if you put it in your pocket, do not put it there but carry it in your hand until you can put it on your slate. In our own business there are four of us who have boxes or pigeon holes for our work, and as each one has his department, all letters and orders are distributed as they come from the office, where they belong. This arrangement has proven so satisfactory, that we often write orders for each other and drop them into the proper boxes even while we are sitting side by side, that each one may work on silently without interruption, and take up each different item with deliberation, and in its proper order.

Young carpenters make many mistakes in taking dimensions; especially if they depend upon feet and inches. To avoid this, I would not use a rule, but would cut a stick of the exact length wanted. To avoid cutting so many sticks, simply tack two lath together so that they give the length wanted. So much trouble has resulted from measuring for the dimensions of frames, hives, &c., that I have been obliged to emphatically insist that hands should not use squares or rules, but the standard guages that are provided for all the different sizes of frames. A bee-keeper once said the only way he could get accurate hive stuff, was to take one board to the lumber mill, and tell them to make so many pieces like that. When this was done, to take the next piece and so on, for just as surely as they were shown two different pieces at once, just so sure were they to get something mixed. It is quite probable these frequent misunderstandings were not all the fault of one party, but both; for a really valuable business person will give a very careless person a message so plain and brief, that he can hardly make a mistake. Many people in giving their orders say too much, and clothe their directions in such a mass of unimportant matter, that they are almost sure of being misunderstood.

If you have directions that you wish to give a child, or any one who will be pretty sure to be careless or forgetful, first decide in your own mind the very simplest way in which you can put it, and then make them repeat it over after you to be sure you are not misunderstood. If they then make a mistake, blame yourself, and not the child.

It may be a heroic thing to stand before a cannon's mouth in battle, but my friends there is a great demand for the kind of heroism that is required to enable you to bear the blame yourself, of many of these little vexations of every day life. When something is amiss, and everybody is ready to exclaim "It was not I," give me the one who is manly enough to take all his share and a little more, without a word of attempt to put it on some other person's shoulders. Take upon yourself more hard labor, and give freely of your hard earnings if need be, but do not show yourself cowardly, or selfish, where some one must suffer.

Now a word to employers; it struck me the other day that the familiar lines we have many of us learned in our childhood, showed just about the spirit that an employer needed.

"Let love through all your actions run,
And all your words be mild."

How far, O how very far, does my own life fall short of this. And yet I know perfectly well, that love and mildness would be the most powerful arguments that could possibly be used, for carrying on a manufacturing establishment profitably. Why is it, that we can not follow in that straight and narrow path, when we know it is so much safer, better in every way, and even more profitable.

An employer can be firm and decided, can insist on a faithful performance of the work as he directs, can reprove heedlessness, dishonesty, untruthfulness, outbreaks of temper, &c., and all with mildness, nay, even with a kindly look, but it is one of the hardest tasks to do, of any thing I ever tried in all my life. Nothing but earnest fervent prayer for strength, patience and courage, has enabled me to do this work as I feel it should be done, and as a reward for even my humble efforts, I have about me earnest and faithful friends, instead of those who otherwise might have been enemies, or something akin to it. Nay, farther, not a single hand has been discharged, since the new light began to dawn on my own life, and may God grant that no such unpleasant occurrence may *ever* take place in our peaceful workshop.

Continued next month.

Now I know you will many of you be disappointed in not finding your communications in this No.; in fact I am disappointed myself, to find GLEANINGS will hold no more, for I have many items that I had decided *must* go in.

MAKING SECTION BOXES.

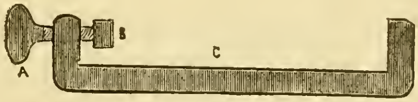
I AM much pleased with your section boxes, I am the better prepared to appreciate the fine workmanship displayed, after my own efforts at making them. I am bothered somewhat by cutting grooves of unequal depths across the ends. I think I shall have to clamp the bundles more firmly than with paper bands alone.

There is another question or problem that I would like to have solved, viz., do bees work well in your upper tier of sections when you use the tin separators? I had fears that two tiers of sections as you use them, with separators, would not be a success. I have been fitting up a few hives with one tier of sections.

Our honey harvest is yet to come in this locality, smart weed and Spanish needle being our main dependance. I have about 100 colonies of Italians and hybrids in L. hives. Have been using 4 lb. boxes mostly. If you find the sections as you use them O K, I shall probably "go for" the Simplicities. I make my own hives. Run saws by horse power. I will say in this connection that I find a 6 inch emery wheel 1½ inches thick used on the mandrel a very useful tool for gumming saws when the teeth are ¾ inches or more between points. T. P. ANDREWS.

Farina, Ills., July 9th, 1877.

We formerly used clamps made of wood to hold the pieces of the section boxes while they were being grooved, besides the paper bands that keep them in bundles, but we have recently had some made of iron by our blacksmith. We give a cut of them for they are very convenient for a great variety of purposes, with circular saws.



We use the bands of paper also, that our work may be nicely bundled ready to ship or lay away. It requires practice to do nice work, and if the stuff is to be very exact, it can be planed after it is sawed out; as a little difference in the thickness of the stuff makes no difference at all in the size of the finished boxes, we think it will be unnecessary to go to this expense, especially as one who is expert with saws, will do sawing that differs very little indeed, in appearance, from work finished with a planer. We prefer a saw with a wide set, to the grooving tool furnished with the Barnes' saws. One groove at a time is all that can be done profitably with a foot power. To cut the whole 9 at once rapidly, needs about a ten horse power engine.

To be sure the bees work in the upper tier of sections. We were well satisfied on that point, before making such hives largely. The tier next the brood frames, is perhaps as a general thing filled a little first, but by no means invariably; after these are removed, the upper ones are sealed while they are filling the lower ones again, thus keeping them continuously at work.

You are not the only one who is going for the Simplicities since it has been demonstrated that they give just as much honey—if we except the chaff hive—as any other, and are far cheaper and easier to handle than the most expensive and complicated ones.

We have used an emery wheel, but as ours are all very fine toothed, we find files the most convenient. The half round files we advertise, are the best we have found.

In regard to the 4 lb. boxes; we have some very pretty ones with glass on four sides filled with nice clover honey, yet we are unable to get even 15 cents per lb. for them, while the small sections, made of light wood, are in brisk demand at 25. The matter seems to be pretty well demonstrated, that sections 4¼ inches square, holding just one lb. on an average, are going to sell at better rates than any thing else; there is no chance for argument, let consumers see both kinds, and if they choose the small light package, even at a higher price, all objectors will soon fall into line no matter what may be their personal views.

Humbugs and Swindles

Pertaining to Bee Culture.

[We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.]

IS there such a man as N. C. Mitchell, in Indianapolis, Ind.? I received the Bee-Keepers Directory from such a man advertising a bee hive at $1.00. I sent money for said hive but can get no hive nor answer from him. I have written several times. is it a humbug? He speaks of you in his circular. Please let me know. H. M. MORRIS.

Rantoul, Ills., July 9th, 1877.

We warned our readers nearly four years ago, that sending money to Mitchell was like pouring water into a tunnel; it is gone, hopelessly. We have had warning in almost every No. published since then, but complaints like the above are still coming thick and fast.

DEPOSITORY OF

Blasted Hopes,

Or Letters from Those Who Have Made Bee Culture a Failure.

MY bees are doing splendidly this spring. Had five colonies last fall. Wintered on summer stands; found all dead this spring. Bought two swarms of Italians, all doing well and have increased to six. Plenty of white clover in this section of the country. Am a reader of GLEANINGS and like it amazingly. H. H. SCHWILLY.

Yorkville, Ills., June 20th, 1877.

Although you have had some very bad luck friend S., it just now occurs to us you do not belong here, after all, but *somebody* must be here or the department would run down.

Your "Blasted Hopes" column was very slim last month. Every bee gone of *twenty-three colonies*. Not much honey in prospect for next winter's buckwheat cakes. E. PLOWMAN.

Lansing, Ills., June 30th, 1877.

But we want to know how it came about friend P. You are as bad as the fellow that told the Yankee he would tell him how he lost his arm, if he would promise to ask no more questions. It was *bitten* off.

Notes and Queries.

Seven thousand lbs. honey so far. Will exceed 10,000 lbs. this year. J. OATMAN & Co.

Dundee, Ills., July 16th, 1877.

I send you a paper, the *Valley Herald* published at our county seat which has a little article on "Bees on a rampage." I would be glad to hear your views on the subject. What caused those bees to act so, &c.? Any thing from you will be read with interest.

JOHN W. HOODENPYLE.

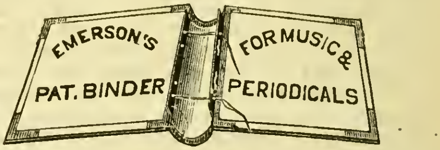
Looney's Creek, Tenn., July 10th, 1877.

BEES ON A RAMPAGE.

Mr. Elisha Tate, who lives some fifteen miles from this place on the head of Battle Creek, met with quite a singular misfortune on the 19th inst. He has, or did have at that time, about twenty hives of bees, and on that day, while all were away from the house except a daughter and the baby, the bees became mad from some cause or other, left their hives in large swarms and commenced to sting every living thing on the place. They attacked the daughter, who fled from the house, leaving the babe on the bed. A fine jack was stung to death in the stable; all the chickens were killed, and a sheep, that was around the house, was stung so badly on the nose that that organ swelled to huge dimensions, causing death by suffocation. The cries of the daughter brought Mr. Tate to the house, and he proceeded to rescue his babe, which he found literally covered with bees; and we understand that it was with great difficulty that its life was saved. Mr. T. attempted to destroy the bees at night by piling fodder on the hives and setting fire to it, but it only served to again arouse them and they attacked the family and compelled them to abandon their house and go to a neighbor's.

No one can account for the strange occurrence. Some think that a snake must have visited the hives, as it is known that bees have the greatest antipathy toward snakes.

[The article is in all probability, considerably exaggerated, as such things usually are, before they get into the papers, but it affords an excellent lesson nevertheless on the results of letting bees get into a habit of robbing each other, or of finding honey scattered about the premises. I tried in the A B C, ANGER OF BEES, to illustrate it, but the above does it still better. The worst season seems to be after basswood is over, and the bees seem to get especially crazy, if they even get a smell of this aromatic honey left carelessly about the hives. One who has never seen such a state of affairs, can have but little idea of the furious way in which they sting everything, and everybody. The remedy is to get a kettle of coals and put in enough chips or sawdust to make a "big smoke"; carry this out among the hives and proceed to close every hive that shows any symptoms of being robbed. Shut up every bit of honey where not a bee can get at it, and do your work well, for they will at such times wedge into and get through cracks that would make one think *inch boards* were hardly protection enough. Just before dark, let all the robbers go home, and be up betimes next morning to see that all entrances are close and small, and that all the hives are bee tight. An experienced hand, will restore peace and quietness in a very short time, in such a demoralized apiary. Black bees are much worse than Italians, for the latter will usually hold their stores against any number of assailants; good strong well made hives, of Italians, with plenty of bees and brood in each, will be in little danger of any such "raids," although we have seen the wounded and slain piled up in heaps before robbers would desist and give up trying to force an entrance.]



You cannot look over the back No's of GLEANINGS or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said—"Dear me what a bother—I *must* have last month's Journal and it's no where to be found." Put each No. in the Emerson Binder as soon as it comes, and you can sit down happy, any time you wish to find any thing you may have previously seen even though it were months ago.

Binders for GLEANINGS (will hold them for four years) gilt lettered, free by mail for 50, 60, and 75c, according to quality. For table of prices of Binders for any Periodical, see Oct. No., Vol. 2. Send in your orders. A. I. ROOT, Medina, O.

ITALIAN QUEENS and Bees for sale, at the Italian apiary of
9d E. E. SHATTUCK, Los Angeles, Cal.

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our tenth edition circular found in April No., Vol. V., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required.*

Canada postage on *merchandise* is limited to 8¾ oz., and nothing can be sent for less than 10c.

BEES.

Bees, full colony amply provided for winter, in our new two story, chaff hive (described Nov. and Dec. No's., '76), tested queen from imported mother, safe arrival guaranteed..(Lawn hive $1 more.)..	$15 00
The same in a 1 story Simplicity hive..............	13 00
The same in old style L. hive with portico, etc......	12 00
The same with hybrid queen........................	10,00
Not provisioned for winter (hybrids in old hive)......	7,00
Two frame nucleus with tested queen..............	5 50
The same with dollar queen.........................	4 00

For an imported queen in any of the above, add $5,00

We think we can prepare bees for shipping safely any month in the year; when we fail in so doing, we will give due notice.

0	Binder, Emerson's, for GLEANINGS..........	50, 60, 75
	Balances, spring, for suspended hive (60 lbs)......	8,00
10	Blocks, iron, for metal cornered frame making....	15

One of the above is given free with every 100 frames, or 1000 corners.

	Barrels for honey, $2,50 ; waxed and painted....	$3,50

Buzz-saw, foot-power, *complete*; circular with cuts free on application. Two saws and two gauges included. $35 00

0	Buzz-saws. extra, 6 in. 1,50; 7 in., 1.75; 8 inch..	2 00
66	Buzz saw mandrel and boxes complete for 6 inch saws..	5 00
	The same for 7 and 8 inch saws (not mailable)..	8 00
	Comb Foundation Machines complete....$30 to	100 00
	Comb basket made of tin, holds 5 frames, has hinged cover and pair of handles...............	1 50
60	Chaff cushions for wintering......................	30
25	Chaff cushion division boards....................	20

Half price without the chaff, and postage 5 and 9c.

20	Candy for bees, can be fed at any season, per lb.	17
20	Corners, metal. per hundred.....................	75
20	" " top only.......................	1 00
15	" " bottom, per hundred............	50

On 1,000 or more a discount of 10 per cent. will be made, and on 10,000 25 per cent. The latter will be given to those who advertise metal cornered frames.

	Corners. Machinery complete for making......	250 00
10	Clasps for transferring, package of 100..........	25
0	Cards, queen registering, per doz. 6c, per 100...	40
2	Cages " all of metal.........................	10
2	" wood and wire cloth, 5c each, per doz.....	50
2	Cheese cloth, for strainers, per yard............	10
12	Duck, for feeding, and covering the frames—bees do not bite it—per yd. (29 inches wide).....	20
	Extractors, according to size of frame $7 50 to	10 00
	" inside and gearing, including honeygate	5 00
	" Hoops to go around the top (per doz. $5.)	50
7	Feeders. 1 q't, tin, can be used without opening the hive, in warm weather—neat and simple.......................................	10
25	The same, 6 qts, to be used in upper story...	50
4	Frames with Metal Corners.......................	05
5	" " Sample Rabbet and Clasps....	10
18	Galvanized iron wire for grapevine trellises per lb. (about 100 feet).......................	20
0	GLEANINGS, Vol's I and II, each 75c., Vol IV	1 00
0	" Vol. III, second-handed..............	2 00
0	" first four volumes neatly bound.....	5 00
0	" " " " unbound........	4 00
50	Gearing for Extractor with supporting arm..	1 50
25	Gates for Extractors tinned for soldering...	50

SIMPLICITY BEE-HIVE.

One body and 1 cover in the flat, as sample to work from—one sample frame and sheet of duck included	1 00
One story hive for extractor (body 50c—2 covers 30c—nailing and painting 20c—quilt 25c—10 frames 60c—crating 10c)................................	2 25
One story hive for comb honey is precisely the same as the above, substituting 2 frames of sections for 4 metal cornered frames.........................	2 25
The above 16 sections will be fitted with fdn., and starters ready for the bees, for 15c, and the tin separators added for 10c, making whole complete.......	2 50

The above two hives contain everything used in a 2 story hive. We simply use another body filled with frames or sections, for a 2 story hive.

For a 2 story hive for the extractor, add (to 1 story 2 25) body 50c—nailing and painting 10c—10 frames 60c—crating 5c, making complete 2 story containing 20 frames...	3 50
For a 2 story hive for comb honey add (to 1 story 2 25) body 50c—nailing and painting 10c—6 frames of sections 78c—1 metal cornered frame 6c—crating 6c, making complete 2 story containing 7 frames and 64 sections...	3 75

If filled with fdn. starters 60c—if also filled with tin separators 40c, making $4 75, if two latter items are wanted.

An upper story filled with sections, fdn. starters and all ready to be set over any L. hive...............	$2,75

To prepare the above hives for winter, put in place of the 2 outside frames chaff cushions, price 20c each, and a thick one on top 30c.

	Iron frame to gauge size of above hives, and to hold them true when nailing, size 20¼x16 inside....	75
	CHAFF HIVE FOR OUT DOOR WINTERING, 10 frames below, and 14 frames or 80 section boxes above, well painted and finished complete ....(Lawn hive $1 more.).......	$5 00

If filled with fdn. starters and separators, $1.25 more.

Without frames chaff or paint, as sample to work from	2 50

These hives, if supplied with stores, will, we hope, need no attention whatever, from the time honey ceases until it comes again the next season.

	Two frame nucleus hive, neatly painted.......	50
0	Knives, Honey (½ doz. for $5.25, or $5 by Exp.)	1 00
	" " curved point $1.15..per ½ doz	6 25
	Labels for honey, in blue and gold, dark bronze and gold, or in white printed in two colors, furnished with your own address, and source from which the honey was gathered, already gummed, post paid by mail, (no order rec'd for less than 250). At these low rates, the full number mentioned *must* be ordered without the change of one single letter of the type...................1000, $3,25 ; 500, $2,40 ; 250,	$1,80
0	Lithograph of the Hexagonal Apiary........	25
	Lamp, Nursery for hatching queen cells as built	5 00
0	Larvae, for queen rearing, from June to Sept.	25
15	Microscope, Compound, in Mahogany box...	3 00
0	Prepared objects for above, such as bees' wing, sting, eye, foot, etc., each.............	25
0	Medley of Bee-Keepers' Photo's, (150 Photo's)	1 00
0	Magnifying Glass, Pocket.........................	50
0	" " Double lens, brass, on 3 feet	1 00
7	Muslin, Indian head, for quilts and cushions per yard, pretty stout, but not good as duck.	10
	Parafine, for waxing barrels, per pound....	20
0	Photo. of House Apiary and Improvements..	25
2	Rabbets. Metal per foot..........................	02

SECTION BOXES IN THE FLAT, PER 1,000.

Any dimensions not exceeding 2x5x5..................	10 00

The above is 50 cubic inches; for larger sizes add 10c per 1,000 for each additional cubic inch or fraction of an inch, outside measure. Extra prices for less than 500.

Just right to fit in L. frames, 2x4¼x4¼.........	9 50
Sample by mail with fdn.............................	5

If the grooving for holding the fdn. is omitted, 25c less per 1,000. Sections weigh from 7 to 10 lbs per 100.

10	L. frame made 2 inches broad to hold 8 sections	5
25	The same with 8 sections.........................	13
25	The same furnished with fdn. starters all ready for the bees..	20

Adding tin separators to either of the above will increase the price 5c, and the postage 6c.

6	Section boxes, fancy, hearts, stars, crosses, etc. each	5
3	Sheets of duck to keep the bees from soiling or eating the cushions..................	10
	Salicylic acid, for foul brood, per oz..............	50
0	Scissors, for clipping queen's wings	40
18	Seed, Alsike Clover, *raised near us*, per lb...	25
18	" Summer Rape. Sow in June and July.	15
0	" Chinese Mustard, per oz................	25
18	" Mignonette per lb. (20c. per oz.)	1 50
18	" Mellilot, or Sweet Clover, per lb.........	60
18	Silver Hull Buckwheat (peck by express, 75c)	10
10	Smoker, Quinby's (to Canada 15c extra)	1 50
5	" Doolittle's.............................	25
10	" Bingham's.............................	1 50
2	Tacks, Galvanized..................................	10
5	Tins for fastening glass in section boxes, 1000...	25
5	Thermometers...	40
0	Veils, Bee, with face of Brussels net, (silk)..	75
0	The same, all of tarletan (almost as good)...	50
	Wax Extractor..	3 50
	Copper bottomed boiler for above	1 50
5	Wire Cloth, for Extractors, tinned, per sq. ft.	15
2	" " Queen Cages..................	12

Above is tinned, and meshes are 5 and 18 to the inch.

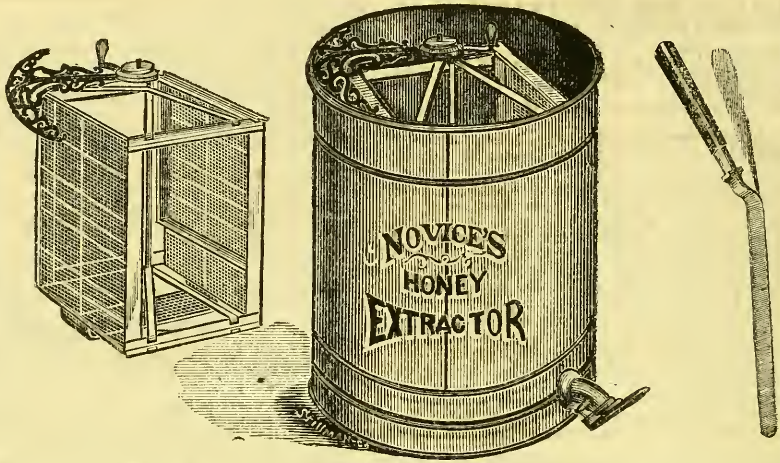
3	Painted wire cloth, 14 mesh to the inch, per square foot..	7

All goods delivered on board the cars here at prices named.

☞ We will pay $1.50 cash, for Vol. III. A. I. ROOT.

PRICES OF EXTRACTORS:

For Gallup frame, $7,50; American frame $7,75; Adair frame, $8,00; Langstroth, $8,00; Quinby, $9,00. No knife included at these prices. All the above sizes kept constantly on hand ready to ship. OVER 1000 NOW IN USE.



In ordering be sure to give outside dimensions of frame, and length of top bar.

Our Honey Knife, Price $1,00, post-paid, is made of fine steel, nicely finished, with a thin keen edged blade that needs no hot water or any such "fussing" to make it uncap nicely.

ADVERTISEMENTS.

Advertisements will be received at the rate of 20 cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

FREE! FREE! FREE!

We will send a sample copy of the **Bee-Keeper's Magazine,** *post-paid,* to any person in any way interested in **Bees** or their **Products,** or in the apparatus so successfully used in modern management. Just send your name and address to **A. J. KING & CO.,**
8tf **61 Hudson St., New York.**

Every Bee-keeper should subscribe for it.

The American Bee Journal

Is the best scientific and practical Journal of APICULTURE in the world. The most successful and experienced Apiarians in Europe, as well as America, contribute to its pages. In fact, it is the *oldest* and *largest* BEE PAPER in the English language. **$2.** Per Annum. Send a Stamp for a Sample Copy. Address THOMAS G. NEWMAN,
tf 184 Clark st., Chicago, Ill.

ITALIAN BEES.

Full colonies $10,00 each; tested queens $3,00; warranted queens $2,00; not warranted $1,00. Queens bred from imported mothers and selected home bred stock. Sent by mail at my risk. SWARMS shipped in Langstroth hive and one frame of comb $7,00. Langstroth hives single one $2,00. Lots of 5 to 10 at $1,50 each—cap 7 inches, one coat of paint, no portico.

T. G. McGAW, Monmouth,
6-9 Lock Box 64. Warren Co., Ill.

IMPORTED QUEENS AT $5.

We are receiving queens from the best districts in Italy, which we will sell at $5. each.

This price being very near cost no discount can be given on the dozen.

Having ordered queens sent to us every two weeks, we expect to fill orders without delay.

We will deliver at express office here in box as received, or forward by mail, as requested.

No queens raised this season or circular issued. Registered letter or money order sent at our risk.

C. W. & A. H. K. BLOOD,
8tf P. O. Box 234. Quincy, Mass.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 10c. each insertion, or $1.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c. each insertion, or $2.00 per year.

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, safe delivery, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If wanted by mail, send 10c. extra.

*C. C. Vaughan, Columbia, Tenn.	3-8
*Wm. W. Cary, Colerain, Franklin Co., Mass.	3-2
*J. Oatman & Co., Dundee, Ill.	1-12
*E. W. Hale, Wirt, C. H., West Va.	6-6
*J. M. C. Taylor, Lewiston, Fred. Co., Md.	1-12
*Dr. J. P. H. Brown, Augusta, Ga.	1-12
*Albert Potter, Eureka, Wis.	1-12
*Wm. J. Andrews, Columbia, Tenn.	2-2
*Aaron J. Weidner, Bigler, Adams Co., Pa.	4-9
*J. H. Nellis, Canajoharie, N. Y.	5-11
Miss A. Davis, Holt, Ingham Co., Mich.	5-4
D. A. Pike, Smithsburg, Wash. Co., Md.	5-6
*W. A. Eddy, Easton, Adams Co., Wis.	6 11
*T. G. McGaw, Monmouth, Warren Co., Ills.	6-9
*E. C. Blakeslee, Medina, Ohio.	6tfd
*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Columbia Co., Pa.	7-6
*J. Shaw & Son, Chatham Center, Medina Co., O.	8tfd
*M. L. Stone, Mallet Creek, Medina Co., O.	8tfd

Bees for Sale.

We whose names appear below agree to sell a good colony of Italian bees with tested queen, in new one story hive, for $10,00. If in an old hive, $1,00 less. Safe arrival guaranteed.

A. I. Root, Medina, Ohio.

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
M. S. West, Pontiac, Mich.	6-5
Geo. W. Simmons, Newark, Del.	1-12
Isaac L. Parker, McMinnville, Warren Co., Tenn.	3-2
Thos. F. Wittman, Camden, N. J.	6-5d

TESTED QUEENS for $2.50, with 2 frame nucleus full of brood and bees $5.50, five for $25.00; all from imported mother. The same with a dollar queen $4.00.

E. C. BLAKESLEE, Medina, Ohio.

GLEANINGS IN BEE CULTURE

Devoted to Bees and Honey,

And Peace on Earth and Good Will toward Men.

PUBLISHED MONTHLY, AT MEDINA, OHIO,
BY A. I. ROOT.

Vol. V. September, 1877. No. 9.

To Many Inquiring Friends.

PATENT HIVES—WHAT FRAME OR HIVE TO USE—SHALL WE USE AN EXTRACTOR, OR RAISE COMB HONEY?—ITALIANS—THE BEE MOTH—SPACE FOR COMBS—FOUNDATION.

While I earnestly try to maintain a broad "charity for all, and malice toward none," and while I do not wish to take upon myself the responsibility of dictating a course for others, I feel it a duty to discourage with all my might, both by precept and example, everything in the shape of patented bee hives, or patents on anything pertaining to bee-culture. On the other hand I shall try to encourage every one to do all in their power to advance the common good of all. I do not believe the world "selfish and grasping," but have unlimited confidence in the disposition of our people to desire to pay for everything they get, and to reward those who work for them disinterestedly, when they once get a clear understanding of the matter. If you have made a valuable invention or discovery, give it to the people rejoicing that you have been enabled to contribute your mite to the common good, and in seeing others happy, and sooner or later, you will surely have your reward. *Nothing is patented in the shape of hives or implements, that we advertise.*

I recommend the Langstroth frame for everybody, and for every purpose whatever, in preference to anything else, and I have pretty thoroughly experimented with all shapes and sizes. There may be other forms that will give just as good results, but I do not believe there are any better. For all general purpose, I advise the Simplicity hive holding ten of the above frames. The hive is made of ⅞ lumber, and is 20¼ by 16 inches outside measure. The Langstroth frames as our gauges make them, are 17⅝ by 9⅛ outside measure. As the chaff hive is the same thing with an outer shell to hold the chaff that protects the hive from the winter's frosts, as well as summer's sun, no confusion can result from using both in the same apiary.

Produce just whichever pays best in your own market, and no one can tell so well as you, yourself, can by trying both; you can perhaps produce a nice article of extracted for about 15c., as cheaply as comb honey for 20c. You can produce thin, raw, unripened honey without any trouble for 10c. or less, but it will probably pay you best to give your customers an article as good in every respect as that found in the nicest comb honey.

If your hives are all full, upper story and lower, and the honey is still uncapped, put on a third one, and neither let your bees hang out idly nor swarm, if it takes another story still. When they get to crowding out, give them room if you have to sit up all night to do it.

The comparative advantages of the black or common bees and Italians, is a matter that no longer admits of discussion, and I must consider the very few individuals who write in favor of the former as belonging to that class of unfortunates who seem to delight in being contrary. If tons of honey are to be considered a proof, the matter has long ago been amicably settled in favor of the Italians.

The bee moth need hardly be mentioned now, unless it is to advise you to drive them out with Italians, for whenever they come into a neighborhood, the moths get out without any farther trouble or bother. This one feature alone, is enough to justify introducing Italian queens in place of the blacks.

The usual space allowed for brood combs is about 1 7-16 inches, but the matter is not at all important. They can be worked as closely as 1⅜, or as far apart as 1¾. For surplus honey we would have about 2 inches space from centre to centre of the combs.

Perhaps no one thing in bee culture, ever brought forth such unbounded tokens of approval, as has the comb foundation. All controversies are at an end and nothing now remains but to devise ways and means whereby the expense of its manufacture may be cheapened.

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TO-DAY we have 2333 subscribers. Aug. 29th.

Two queens were sent in the candy cages, clear to Colorado. Both arrived safely.

WILL exchange Mammoth Cluster Raspberry plants for a few colonies of Italian bees in hives. Plants ready about October 1st.

9 R. B. McMASTER, Sewickley, Pa. Box 99.

QUEENS. Tested and untested, bred from my choice lot of imported mothers received from Italy last fall. Safe arrival by mail guaranteed at low prices. Satisfaction guaranteed. Circular free.

9 J. M. C. TAYLOR, Lewistown, Fred'k Co., Md.

GLASS CUTTERS.

Good glass cutter to cut light and heavy glass for honey boxes, hives, &c., &c. Sent post-paid for 50 cents.

9 Address, H. M. MOYER,
Hill Church, Berks Co., Pa.

66 STANDS OF BEES, Italians, blacks and hybrids, in 2-story L. hives, in good order and full of honey, for sale at $6 00 per colony. A number of new empty hives, frames, boxes and sections given with the *entire lot*. Address, S. SCOTT HAMMITT, Jr.,

9 College Hill, Ham. Co., O.

TESTED QUEENS for $2.50, with 2 frame nucleus full of brood and bees $5.50, five for $25.00; all from imported mother. The same with a dollar queen $4.00.

E. C. BLAKESLEE, Medina, Ohio.

ITALIAN QUEENS FOR SEPTEMBER

Raised from imported or home-bred mothers. All warranted pure and safe arrival guaranteed by mail. Queens handsome, prolific, and progeny very gentle. Five hundred shipped up to Aug. 15th. Sixteen years' experience in rearing and selling them; **$1.00** each.

9 H. ALLEY, Wenham, Essex Co., Mass.

WILL EXCHANGE

Pure bred fancy Poultry for Bees, Honey Extractors, Foundation, Foot-Power Saw Machines, or anything in the bee line. Correspondence solicited.

9 JAS. W. McMAKIN, Station A, Cincinnati, Ohio.

PURE ITALIAN BEES FOR SALE.

Will sell after August 15, 1877.

ONE HUNDRED COLONIES OF PURE ITALIAN BEES,

With Queens raised this summer from IMPORTED MOTHERS, at **$6.00** per colony. Money must accompany order, or it will not be noticed.

GEO. GRIMM,
9-10 Jefferson, Jefferson Co., Wis.

Set Out GRAPE VINES in the FALL!

For $1.50 I will forward by Mail, prepaid,

1 Elvira,	retail price	$1 00,	
1 Taylor,	" "	30,	
1 Goethe,	" "	30,	
1 Wilder,	" "	30,	
6 Concord,	" "	60,	equal to $2 50.

Vines will be sent in time for Fall planting. One year old Concord Grape vines at $15,00 per thousand, two year old at $30,00 per thousand, delivered at the Express office. One year old Concord vines by mail, prepaid, $1 00 per doz. Two year old Concord vines by mail, prepaid, $1,50 per doz.

Reference, the Editor of this Journal.

Address, J. G. WARNER,
9-10 Clover Farm Vineyard, Butler, Bates Co., Mo.

Imported Queens Received Weekly.

One Imported Queen	$7 00
Single Queens to old customers	6 00

Special rates for larger quantities.
Safe arrival guaranteed. CH. DADANT & CO.,
8tf Hamilton, Hancock Co., Ill.

QUEENS.

Untested and unwarranted queens $1.00; tested queens $2.50. Queens to be sent during the months of August and September. Address J. SHAW & SON.,
8-9 Chatham Centre, Medina Co., Ohio.

FILES for small circular saws. Something new. With these a saw can be made to do handsomer work than ordinary planing. For sample of the work, see sample of the Section Boxes we are *now* sending out. Files mailed for 20c. each. A. I. ROOT, Medina, O.

Home Bred Italian Queens,

Post-paid 75 Cents.

Estimates furnished on hives of all styles and finish.

9 R. FERRIS, Belleville, Essex Co., N. J.

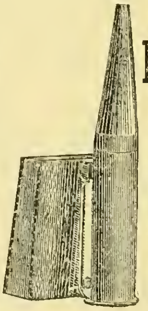
COMB FOUNDATION.

Having purchased a machine for my own use I will furnish the fdn. in strips any length by 5 inches or less wide at 75c. per lb. if I can get the

Bees-wax Wanted.

I will pay 30c. cash for clean yellow wax delivered here. I refer to the Editor of this Journal.

GEO. M. DALE.
Border Plains, Webster Co., Iowa. 8-9



THREE SIZES DIRECT DRAFT SMOKERS.

Extra large 2½ inch tube......	$1 75
Per mail	2 00
Standard 2 inch tube	1 50
Per mail	1 60
Small 1¾ inch tube............	1 00
Per mail	1 25

These smokers differ only in size.
T. F. BINGHAM,
9 Abronia, Mich.

REMOVAL.

The Brooks Bro's. have removed their Apiary *from* Columbus to Elizabethtown, Ind., and would be pleased to send you their new circular. Send for it before purchasing your queens or bees.

Address, J. M. BROOKS & BRO.,
4-9 Elizabethtown, Ind.

ITALIAN QUEENS FOR THE FALL.

Unwarranted Queens, each	$1 00
Warranted " "	1 50
" " per ½ doz	8 00
" " per doz	14 00
Tested " each	2 50
2 frames, nucleus and tested queen	4 50

Safe arrival of all queens guaranteed.

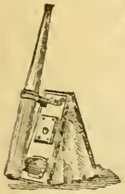
9-10 J. OATMAN & CO., Dundee, Kane Co., Ill.

THE
British Bee Journal,

Is a large, beautifully printed, and profusely illustrated MONTHLY; clear type and fine heavy paper.

It is conducted by CHARLES NASH ABBOTT, Hanwell, W., London, England. Annual subscription, half-a-guinea.

We will send it with GLEANINGS and pay all postage for $2.50.



Improved Quinby Smoker.

Quinby's "Bee-Keeping Explained." Box material for as practical a box as can be made. Glass cheaper than ever before. Queens, Hives, Colonies, Extractors, Hive Clasps, Bee Veils, etc.

Send for Illustrated descriptive Circular. L. C. ROOT,
Mohawk, Herkimer, Co., N. Y.
4tf

I own latest and best machinery and promptly supply

Pure Beeswax Comb Foundation.

at the following low prices: Made from yellow wax, 70c per lb.; white wax, 90c per lb. Sheets 12 inches wide or less and as long as wanted. Five cells to the inch and 4 to 8 square feet to the pound. Packed in light wooden boxes—paper between the sheets. Sheets cut to any desired size. Ten per cent discount on 50 lbs. or more. Wax delivered here. will be worked up for 30c per lb. or for half the wax. Highest cash price paid for pure wax delivered here. Freight or Express charges to be paid by the purchaser. By mail. add 25c per lb. to above prices. Order early before the summer rush. Sample by mail, 10c.

Enlarged circular, giving prices of Queens, Bees, Hives, Boxes, Extractors, etc., etc., sent free to all. It tells how to introduce queens, how to use foundations, and many useful hints.

ITALIAN QUEENS FOR 1877.

I warrant safe arrivals of all my queens by mail.

Tested queens June 15th to July 15th each	$3 00
" " after July 15th, each	2 50
" " " " six	13 00
" " " " per dozen	22 00
Warranted queens, each	1 50
" " six	8 00
" " per dozen	14 00
Dollar queens, each	1 00
" " per dozen	11 50

tf J. H. NELLIS, Canajoharie, N. Y.

ITALIAN BEES.

Imported and home bred queens; full colonies and nucleus colonies; bee keeper's supplies of all kinds, Queens bred early in the season. Send for catalogue.

9tf DR. J. P. H. BROWN,
Augusta, Ga.

Wm. W. Cary, Colerain, Franklin Co., Mass. Sixteen years experience in Propagating Queens direct from imported mothers, from the best district in Italy. Persons purchasing Queens or Swarms from me will get what they bargain for. Send for circular. 3 in q.

COMB FOUNDATION.

PURE BEES WAX.

Packed in neat wooden boxes—paper between every two sheets.

		per lb.	per pckg.
1 lb.	6x6, by mail	80c	80
3 "	12x18 or 8x16½, by mail	80c	$2 40
3 "	" " by freight or exp.	58c	1 75
5 "	" " " " "	55c	2 75
10 "	" " " " "	55c	5 50
25 "	" " " " "	53c	13 25
50 "	" " " " "	52c	26 00
100 "	" " " " "	50c	50 00
500 "	" " " " "	48c	240 00
1000 "	" " " " "	45c	450 00

White wax, 25c per lb. extra, if wanted, but we consider the yellow in every respect preferable; even for comb honey.

The fdn. is kept in stock, in sheets 12x18 inches, and 8x16½ inches [exact size needed for L. brood frames] packed in boxes of 3, 5, 10, 25, 50 and 100 lbs. each, and shipped only in these boxes at the above prices.

There are 5 cells to the inch, and one pound of wax makes from 4 to 9 square feet of surface. The thinnest will be used by the bees, but is not made into comb as quickly as the heavier, which has a greater depth of cell.

If 60 lbs. are wanted, send money for a 10 lb. box and a 50 lb. box, &c. The difference in price is only enough to cover the difference in cost of boxing, packing, &c.: five 10 lb. boxes, and packing, handling and nailing up five boxes, cost much more than one 50 lb. box, and packing, handling and nailing up one box.

As these packages are all put up and kept in stock, there can be *no variation*, unless at an additional price.

Now, my friends, if you want all sorts of quantities, or want it cut all sorts of sizes, I will accommodate you with all the pleasure in the world, for TEN CTS. PER LB. EXTRA.

Wax will be worked up to order, and cut into sheets of any size desired, for 25c per lb. in quantities of 100 lbs. or more.

We will pay 30c per lb. cash for bright yellow wax, or sell it for 35c.

At above prices we can pay no express or freight charges either way.

Comb Foundation Machines.

Machines for making sheets 1 foot wide -	$100 00
Expressly for L. frame, 9 inches wide -	50 00
For making 5 inches for section boxes -	30 00
Double Boiler for above machines, -	$3.00, 3.50 and 4.00
Dipping plates per pair. - -	$1.00, 1.50 and 2.00

The above prices are for cells 4½ or 5 to the inch. If drone size is wanted, add $10, $5 and $3 respectively to above prices. The machines are all ready for use, and full instructions will be sent to each purchaser.

Address, A. I. ROOT, Medina, Ohio.

We have sold machines for making fdn. to C. O. Perrine. Chicago, Ills.; to D. A. Jones, Benton, Ont., Canada; to J. M. Madory, Los Angelos, Cal.; J. H. Nellis, Canajoharie, N. Y.; to Lewis Walker, Ventura, Ventura Co., Cal.; to G. M. Dale, Border Plains, Iowa.; to Rev. J. Van Eaton, York, Livingston Co., N. Y.; to G. W. Gates, Bartlett, Tenn.; to Wm. S. Hersperger, Frederick City, Md.; to Wm. Raitt. Liff by Dundee. Scotland; to W. R. Bishop, Sherwood, Wis.; to James B. Hawkes, Arlington Heights, Ill.; to W. S. Boyd, Bethany, Ohio; to A. W. Foreman, M. D., White Hall, Ills., to Mrs. M. D. Minor, Port Jackson, N. Y.; to T. G. Newman, Chicago, Ills., and to C. M. Joslin, St. Charles, Mich.

The four former were 12 inch, and the rest, 5 inch machines. We presume all will be ready to furnish fdn. at our prices. Also to C. R. Carlin, Bayou Goula, La., one $50.00 machine.

CLUBBING LIST.

We will send GLEANINGS—

With The American Bee Journal	($2.00)	$2.50
" The Bee Keeper's Magazine	(1.50)	2.00
" Both The above Bee Journals of America		4,00
" British Bee Journal	($2.00)	2,50
" All Three		5,50
" American Agriculturist	($1.60)	$2.25
" Prairie Farmer	($2.15)	2.90
" Rural New Yorker	($2.50)	3.25
" Scientific American	($3.20)	3,90
" Fruit Recorder and Cottage Gardener	($1.00)	1,75

[Above rates include all Postage.]

ITALIAN QUEENS and Bees for sale, at the Italian apiary of
9d E. E. SHATTUCK, Los Angeles, Cal.

E. W. HALE'S

Price List of Bees, Queens, Etc., for 1877.

1 Full colony .. .. with tested queen	$13 00
1 three frame nucleus " " "	5 50
1 " " " " dollar "	4 00
1 tested queen	2 50
1 untested "	1 00

A discount of 10 per cent will be made on all orders of more than $10.00 each. All my queens are raised from *Imported Mothers*, I only guaranteeing the safe arrival *of all tested queens* within 1000 miles. The money must accompany each order, and all orders will be filled strictly in rotation. My location enables me to furnish queens much earlier than parties farther north. Address,

2-10d E. W. HALE, Wirt C. H., W. Va.

SQUARE HONEY JARS.

One pound square honey jars, per gross	$5 00
Two " " " " " "	7 00

Corks, Caps, Labels, &c., at reasonable rates.
For further particulars address,
CHAS. F. MUTH, Cincinnati, O.

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Youman's Household Science	1 75

GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS

Vol. V. SEPTEMBER 1, 1877. No. 9

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CALIFORNIA.

BLASTED HOPES.

YOUR columns for July show a lamentable scarcity of news in your "Blasted Hopes" department. If you were only over here in sunny California, we would let you publish little else this year.

Our honey gathering season usually begins in midwinter and continues until about this date. This year nearly all the flowers failed to secrete honey, and the consequence is wide-spread disaster. An unprecedented drouth, followed by cold nights all the spring, and an almost total absence of fogs and dews, has left our bees in a starving condition. It may be it is the "blasted country" anyway that causes all this trouble, but it is certain that at least one-fourth of all the old stocks in the whole region of Southern California are either starved entirely out, or are so reduced as to be perfectly worthless. Nearly all will have to feed to carry their bees through until thirty days after our next winter's rain;—which may come in November, or not until the middle of January, or not at all.

This feeding is a great question now, and the majority of apiarists want to know what is the best food. A few will feed honey, if it can be bought, but the majority will use sugar, and all who use sugar want to know the best way to prepare it, and the quality. If low grades cannot be used, give the reason, for this whole feeding business is something new to this country.

It is certain that your side of the "Hills" will have the monopoly of the market this year, and we hope you will get a large crop and reap some benefit from it. We not only will not ship any East, but we have none to eat; which, you must know, works a great hardship with people who are accustomed to eating it daily as a staple article of food. G. F. MERRIAM.

San Luis Rey, Cal., July 18, 1877.

BOY BEE-KEEPERS,

AND WHAT TO DO WITH BEES THAT WILL "HANG OUT."

I AM in partnership with a brother. We are both very young to be called bee-keepers, he being 18 years of age, and I only 16. We started with 41 stands of bees. Well, as we were not able to divide our bees we had to let them swarm. From 41 stands 40 swarms came out, of which we were able to save but 31.

There is one question I wish to ask you, and I hope you will answer me. How can you make bees work when they keep clustering out on the front and sides of the hive]? We have some stocks so strong that they can hardly get into the hive, and they do not work as well as some that are not half as strong. Now if you can explain to me why this is, I wish you would do so.

We have increased our bees from 72 swarms to 88, by dividing some of our hives in which the queens were very fertile. What do you mean by foul brood? I know we have three hives that make the ugliest looking brood I ever saw, but I cannot tell whether it is foul brood or not, as I do not know it when I see it.

All our bees are black; and during a good season they will average about 150 lbs. of extracted honey to the hive. B. C. LEBLANCS.

Allen P-O., West Baton Rouge, La., July 16, 1877.

The problem of getting bees that are disposed to hang idly on the outside of the hive, to go to work, is a very important one; and one in which I fear even the most experienced veterans often fail. It is true, we can divide them, until they are too weak to hang out, but by this means we lose the large crops of surplus honey that very strong colonies usually furnish, when they can be prevented from swarming. Cases have been reported in which they have been brushed off, put into the boxes and made to go to work, and our neighbor Blakeslee, says he makes them go inside and go to work, by driving them into the hive with a Quinby smoker. We have made some experiments of this kind, and are pretty well satisfied that if loafing bees are shown that they have room in the hive on empty combs or fdn., they will many times go right to work. One great objection we have to a portico, is that it offers too great an inducement to bees to cluster outside, instead of on the combs.

Of course we cannot expect bees to go to the fields when there is no honey to gather, and if the weather is very warm at such a time, they will be pretty sure to hang out of the hives. The only thing to do in such a case, is to feed them, or to divide and feed them as mentioned before, and your only object in so doing will be to raise queens or bees for sale.

An extra upper story, with empty combs, will almost set idle bees at work, when any honey is to be found in the fields; and the fdn. is almost if not quite equal to the empty comb.

If foul brood were nothing more than "*ugly looking brood*," we might go on our way rejoicing. Go on, my young friends, you seem to be on the right track; if you continue as willing to work and learn, you will overcome all difficulties in due time.

STRETCHING OR SAGGING OF THE FDN., OVERSTOCKING, CHAFF, ETC.

ANOTHER honey harvest has closed with but a light yield of honey. My surplus, of about 4,000 lbs., was nearly all stored from basswood in about 10 days' time. But I started to write about comb fdn. machines. I tried the fdn. last year, and was not satisfied with the experiments I then made. Have been more successful this year; I like it very much for brood chamber, and shall succeed in getting with it many new swarms in condition for wintering, that I otherwise could not. I have been using the fdn. in frames, and find the queens lay in it very readily. In one instance, I found the queen had laid a considerable number of eggs on a fdn. comb introduced into the hive 12 hours previously; and I had another case in which the queen commenced laying on a foundation comb in preference to a natural comb, new and nice, by its side. And such sheets of brood —I wish you could see them! But you have doubtless seen just such in your own apiary.

Only in one particular can I find fault with them, for brood. They will sag and stretch in a way that I do not like; and a comb 8 inches deep will often, if honey is plenty, stretch so as to measure nine inches or more. At other times they will stretch from ⅜ to ½ inch, or more. The cells that are stretched out of shape are nearly all in the upper third of the comb, and the brood, so far, has been put in below and honey stored in these cells. How they will answer for brood I cannot yet tell. I have seen combs that were all built by the bees, sag or stretch in places, near their upper edge, just as much I think, and I have seen the bees raise drones in them also. But natural comb does not usually sag as much as the fdn.

Now can not a 9-inch machine be constructed so that the sheets of fdn. coming from it will have the cells on one side (the side that is to be placed at the top of the frame) a little flattened? Enough so that when it stretches they will all be of a size? There could be at least a gain of two rows of cells, or more, and besides we should then have no fear of drones being reared in them, and they would be perfect, or sufficiently so for all practical purposes. Perhaps you think they are now, and with more experience I may think so, but I cannot help thinking it would be a decided improvement. What say you?

How many stands will overstock a section? Last year I had over 130 colonies, and a hive that I placed on scales gained nearly 9 lbs. per day for three weeks during clover bloom, while this year the same stock in an apiary of over 170 hives, gained during basswood bloom from 10 to 14 lbs. on certain days. The best day it gave 14 lbs.

I am glad you are taking so kindly these days, to chaff. I feel sure you will never go back on it. I have used it for the past 5 or 6 winters with the best success, although I have sometimes used sawdust. shavings or dry leaves instead. Last winter I left 125 colonies on their summer stands, thus packed, and all came through in good shape. One or two had lost bees so as to injure them somewhat, but all were alive, nor did they dwindle out during the spring.

J. E. Crane, Bridport, Vt., July 27, 1877.

To be sure we have seen the sheets of brood you speak of, not only in our apiary, but in those of our neighbors all round us, and the ease and cheapness with which a comb of nice brood can be produced, even when no honey is coming in, is in our opinion, at the present time, not half realized or appreciated. After one set of brood has been hatched, the combs are tough, strong, and contain more young bees by far, than any square foot of natural comb we ever used. As they will build out the fdn. and fill it with brood when no honey is coming in at all, we can rear bees with a facility never before known; and of all the pleasures of working in the apiary, I know none equal to raising bees and queens with the aid of the fdn., and the Simplicity hives as we have made them this season. When the weather gets cool, we can lift the combs and bees into chaff hives and with *their* aid, we may be able to raise queens into October.

About the sagging or stretching: very much depends on the kind of wax used. If we use wax that is hard and firm, even in warm weather there will be very little of it, and the darkest colored wax frequently stretches the least. We have had what we have reason to think was pure bees-wax brought us that was so soft that the finger could be pushed into a cake, during warm weather. By carefully throwing out all that is soft, we can get fdn. that sags so slightly as to be practically perfect, at least for the L. frame, and this is another good reason for discarding deep frames. Put the sheets, such as we make now, into the L. frames as we direct, and there is practically no sagging, as hundreds can testify. It should be remembered that this work has, like other new inventions. been a sort of groping in the dark, and scarcely a month has passed in which we have not made some improvement. There would be no difficulty at all, in making rolls, that would produce smaller cells at the upper edge, but we think it entirely unnecessary. At first we thought all fdn. must be built out between old combs, and that it would only be used by the bees while they were gathering honey; but now we rejoice in being able to use the fdn. precisely as we would new empty comb. We get perfect worker brood and no other, through the entire hive.

I have never been able to discover that 100 stocks in one place, did any less per colony, than a smaller number, but it is quite likely that in poor localities, it might make a difference. There seems now, scarcely a dissenting voice, in regard to chaff.

IN THE "BIG WOODS" OF MINNESOTA.

BY A WOMAN.

WE are in this region having a poor harvest for bees, for several reasons. The basswood which the worms left, was so badly scorched by the hot sun during our drouth, that there was not half a crop in many places. Our summer has been unusually warm since the first of July, and relieved by one light shower only. Early in the season, there was a nice flow of honey from what is here called "squaw cabbage" or "wild lettuce," which grows in abundance among the timber in this state. The honey I thought as white. and perhaps as pleasant flavored as that gathered from linden. We wish to ask if the snowberry, which is plentiful in this state, growing wild, furnishes much honey; and if the honey is of good quality. I have thus far failed to discover much sweet about it, although I was taught to believe it was valuable for bees.

I have never known the moth to be as troublesome as during the present season. yet we have no weak swarms. The very strongest swarms have suffered quite as much as any. It is quite a mystery to me, as I have always heard it said, and seen it stated in Bee Journals, that moths would not trouble strong swarms. Have only black bees, and there are but few chickens around to hunt the millers which wait until half an hour after the sun is down, and then with a swiftness and dexterity astonishing to see, they fly in the hive, in spite of myself and the bees, which latter are constantly watching for them from soon after sundown till I leave them. In former years, the bees were not troubled with moths after the first part of July. I still find that tapping on the frames, will cause the moth to leave, and it is then easy for one to assist them in leaving. This was discovered some five years since by two apiarians who were tacking light strips on some frames with brood in them.

I am highly pleased with Gleanings, and am sure that I get many new and good ideas from every number, much of which I read over several times.

My bees have the body of each hive very nearly full of honey and brood but do little in the boxes as yet. Have made two swarms from three which I had in the spring. I always divide mine as I see so many lose their natural swarms. Could extract honey now, but feel afraid to do it when there is so little prospect of late honey. It is generally thought that the great (nearly half) loss of bees in this (Wright) Co., last winter was from extracting too closely and having but little fall honey. In some cases persons extracted from boxes only, concluding (without looking to see,) that, of course, their bees had plenty of honey in the main body of one story hives; but afterwards finding that the bees carried the honey from below, as fast as the frames above were made empty. A. M.

August 4th, 1877.

Have never before heard of the snowberry for honey. We think the Italians will prove themselves equal to anything in the line of moths. If moths trouble your strong colonies they are certainly different from the *common* moth. Allow enough honey to remain for winter, by all means; but we seldom find a colony that has worked in the upper story, without enough below.

DEEP AND SHALLOW FRAMES, AND SOMETHING ABOUT THE TRANSPOSITION OF QUEEN LARVÆ.

WITH the files, and Lumberman's book you sent me, I can just make my Barnes' Saw "get up and dust." I filed out one-half the teeth of both my saws, the rip and cut off, and made a rip out of the cut off saw too, and I can saw both faster and easier with them; did you ever try the experiment? if so, how did they cut? The hives I have heretofore used exclusively, were on the Adair plan, with frame 10 inches deep and 12 wide inside measurement. It did well, and I could get more surplus honey than any bee-keeper in this part of the country, although there are many good ones here. I then made 8 or 10 hives, only 8 inches deep, and same width as the others. They did better; I averaged over 10 per cent more per colony than from the others. I then tried the 8 inch hive with caps of same depth as the main hive, and run them for honey at both top and sides; they did just as well, but I can not say they did better. I soon learned that with a cap (upper story) I could use a hive of only one- half the length I had been using, viz., 4 feet, which is not an inch too long for an *exclusive* side storer. I am now trying them only 6 inches deep; they did well last year, but I could not give them as fair a test as I would like to have done. I was so well satisfied with them that I had intended to make them all only 6 inches deep. My reason for making them so is, on account of the surplus honey. Honey cases should not be over 6 inches deep, and 5 would be better. I don't want a hive in which I can't set my empty sections at the side, and then let them fill them out in the upper story, which I want just the same size as the lower. But since you have told us how to make those "wee bit o'" sections so easily and cheaply, I am making a few in my 8 inch frames, and if they are not too small for the bees to build and store rapidly in, I may make all my new hives 8 inch instead of 6. I suppose you think a frame 6x12 or 8x12 inside is entirely too small, but I have tried longer ones several times, and the short frame in this country has given the best satisfaction every time.

I notice on page 48, Vol. IV of GLEANINGS, that Mr. Lurch gives his process of "grafting queen cells," which he thought was something "new." I have practiced that process at different times for 16 years. In July, (think it was July) 1861, I got an Italian queen from Mr. Langstroth, which I think was the first Italian queen west of the Mississippi river. I commenced immediately to raise queens from her, but the old fogies soon raised a howl, "It can't be did. You must have a queen egg for a queen, a drone egg for a drone, and a worker egg for a worker." Determined not to be baffled in that style I set my wits to work; in a few days I got the grafting idea in my head; I told my brother about it, and he thought it would work. We unqueened a colony of blacks which started 6 queen cells. We then with a green apple twig, cut down like a tooth pick, having a curved end, lifted out the black royal larvæ, took small larvæ from the centre of a comb where Italian workers were coming out, inserted them in the royal cradle, and behold out came 5 nice large *yellow* queens. Oh but what a joke that was on the old fogies, about their queen eggs. It just "dried 'em clean up."

Now this occurred near South English, Iowa, at my brother Samuel Flory's, with whom I was then living, in the summer of 1861. I have kept bees in the movable frame over 20 years. I was perhaps about 16 years old at that time. It was my pet hobby then, and is still.

On page 75, present Vol., instead of 3300 lbs. from 28 old colonies and 30 swarms, it should read 5300. Only a mistake of a ton. J. F. FLORY.

Modesto, Cal., June 26th, 1877.

We are very well aware that a saw with coarse teeth will cut faster, but it does not do as smooth work. For hive work, we prefer the fine teeth, even at the expense of working more slowly. We are well aware of the advantages of the shallow frame, but when all things are taken into consideration, is not the L. frame just about right?

So it seems there were several discoverers of the fact that larvæ could be substituted in queen cells. If we only made a mistake of a ton in your honey report, we certainly did well.

BEES THAT WON'T GET OUT OF THE BOXES, &c.

WE can *select* stocks with almost any peculiarity, good or bad, in a large apiary. Listen:

I have about 70 hives, part Italian and a part hybrid. Among them is one particularly cross colony of rather light colored hybrids; I can hardly do anything with it. Yesterday evening I took finished boxes from several hives and laid them near the entrances of the hives to which they belonged. In an hour or so the bees had all left the boxes except those belonging to the above mentioned hive, and I took them in. The bees belonging to that hive were running angrily all over the boxes which belonged to them, when I went out at 11 o'clock, and I got up at 4 o'clock in the morning and found them at the same amusement. At both these times the bees in the hive were quite excited and at the slightest noise would rush angrily out of it. I finally threw a sheet over the hive and took the boxes, bees and all, into the bee house, where in a few hours they collected on the windows. I should have stated that it was a very cool night. Would you advise hunting up the queen and replacing her with an Italian?

I think the sealing of the comb honey stored by the dark bees is whiter than that stored by Italians; nevertheless I am Italianizing my apiary, as I like to handle the Italians much better. I think also that my hybrids work rather better than Italians, but am far from certain on that point.

I find that fdn. must be used cautiously in extreme hot weather, as the weight of the bees clustering on it before the cells were built out tore it in two on several occasions last month. By putting one frame of fdn. between two of comb, I have done better. I have noticed that whenever I have cut comb which was built on fdn. I could see the yellow core and apparently the bees had not thinned it out very much. However I could not get along without it, as we can get beautifully straight combs and all worker cells, and I have repeatedly seen eggs in it before it was half built out.

I think I will go in for sections another season. Extracted honey is low and I don't like honey in small boxes as the yellow bees don't seem to like them. Don't your bees ever fasten the combs to the tin separators? Do you leave any holes in the separators for the bees to pass across from one frame to another?

Honey has been good this season. From 23 hives I have now two barrels of extracted honey, about 150 two lb. boxes, and my bees number 70 stocks.

JOHN DICKINSON.

Milwaukee, Wis., Aug. 3d, 1877.

We have discovered that there are exceptional stocks that will not leave their honey, even if left out over night. We, in such cases, do much as you did, carry the honey into the honey house and place it before a door with a window in it; as fast as they collect on the windows in considerable numbers, we open the door and let them out. Very soon every bee is off, without much trouble. I would hardly think of replacing a queen for such a fault, if the bees were otherwise satisfactory.

Our bees do not attach any comb to the separators with the small thick section boxes we use. In attempting to use natural comb for starters, we have had some such trouble, but none with the fdn. starters. As the bees pass both under and over every separator, there is certainly no occasion for holes in them.

WINTERING NUCLEI, AND HOW IT TURNED OUT.

ALSO SOMETHING ABOUT QUEENS GOING "A VISITING."

I PROMISED to report how my experiment in wintering my nucleus queen succeeded. (See page 62.) Well, the cause of this late report is that I moved myself, bees and all, from Cleveland to Tuscarawas county, Ohio, in April, which gave me plenty to do. Then on the 26th of July my planing mill and lumber yard here were destroyed by fire, which cleaned me out. No, I have my pets yet, but they are rather reduced this spring. Well, I brought the nucleus through with some fussing until about the middle of April, when I put them out to have a fly, and a good one they had, too, and are flying yet for aught I know. I saw the queen all right on the comb in the morning, and when I came home to dinner I noticed quite a quantity of bees flying in the air in the yard, but thought nothing of it. After dinner I examined the hive and saw "nary bee." They had left for parts unknown. They stopped raising brood in Feb.; had a slight touch of dysentery, and dwindled considerably by the time I put them out. I had supplied them with honey, of which they had some, but not a large quantity, when they left. My 13 other colonies came through very well until I moved them. One of them I think had not quite enough ventilation, and about one-half died, and they have all dwindled fully one-half this spring.

Now I have a nut for you old bee-keepers to crack. I believe you all claim that a queen never leaves the hive after fertilization, unless to swarm, but here are some facts: about a week or ten days after they were moved, I looked for, and saw every queen in her proper place, and a few days later I clipped one wing of the queen in the middle hive, as they were standing in a row 8 feet apart; then went to an outside one but found instead of a queen, about a half dozen sickly looking queen cells. No eggs nor brood; all had hatched except a few of the outside scattering ones, and they were all capped over, so I concluded they were queenless. About 10 days, or perhaps more, after this, I brought home a queen that I bought of Wardle Bro's, of Uhrichsville, to give them, and on examining their combs found them well filled with eggs and larvæ; the largest about as large as a grain of plump wheat; "*that got me.*" Had the old queen been resting, visiting, or what? This is her third laying season. Well, what should I do with my new queen? I had bought and paid for her, and my bees were rather light to divide, but as I wanted to increase, I divided them. I took a look at the middle hive again (the queen with the clipped wing) and behold! a dozen large capped queen cells, and one young queen just hatched. So I cut away all the cells and let her remain, and she has now been laying 3 days. On going back to the other hive, I found the queen with the clipped wing *there*, apparently *at home.* Now she had left her own hive, crawled 6 or 8 feet and gone into another, and they had accepted her. There had been no changing of combs, nor anything by which I could have changed her unknowingly, nor could she have come out with a swarm, and gone back into the wrong hive; they had no occasion to swarm for it was too early, and besides they were rather weak. There was not more than one quart of bees, and combs were quite empty, yet contained enough for their present wants. Who can explain?

A. A. FRADENBURG, Port Washington, June 8, '77.

What we said about absconding in our A B C, will I think explain it all. Had your nucleus been kept in the warm cellar, with an abundance of food, I do not think they would have ceased brood rearing, nor have swarmed out. When colonies get down to a quart, and get dysentery or dwindling, they are pretty sure to swarm out; and they do this and come back to their hive much oftener, I imagine, than we know of. My explanation is that your bees swarmed out; for when this mischief is once started, all the colonies near are pretty sure to hear the swarming note and start, especially if everything at home is not agreeable to their feelings. You looked the hives all over, and they probably swarmed out as soon as you left, for I have noticed that disturbing hives at such a time, is very apt to induce such catastrophes. One spring when we started to brush out all the hives, we desisted when about half through, because we thought it made the weak ones swarm out.

Let A B C represent the position of the three hives. All had queens about the first of May. About May 10th, the queen in B was clipped, and C was found queenless; from the age of the brood, we judge she must have swarmed out just after examination, May 1st; she may have dropped off the frame after having been clipped, or she may have simply been replaced, being in her third season. Immediately after the hive C was closed, a queen must have hatched, which commenced laying about the 20th. The purchased queen must have been brought about the 26th, we judge from the size of the larvæ. B was now opened, and a young queen had just hatched, so the clipped queen must have swarmed out about the 15th, and hopped over to A, where there was a pitched battle, the stranger proving victor. The bees, after having lost their queen, returned home, as they always do if their queen has clipped wings.

When some one shall see a fertile queen "out doors," without a swarm attending her, we may have to admit that such things do happen, but meanwhile had we not better take some such explanation as the above?

CROSS BEES.

WHY are some bees so cross, while others are good natured? I have some that will allow me to put my hand in the cluster when they are outside, or to lift the board off the frames, paying no attention to it, more than to crawl on my hands or face, and I have others that won't let me look toward the hive, if they can help it. They are all hybrids; it is impossible to keep them pure here.

I notice one of my best natured stocks has not swarmed at all; it is now three years old, has a very prolific queen, and they raise a pile of bees—and produce a pile of honey. Now the question is, is there any way to make the "ugly" ones a little more "sociable?" If I were to raise queens from the good natured ones, and give them to the cross ones, do you think it would affect them any? I am inclined to think it would. A. N. GRISWOLD.

Naugatuck, Conn., June 27, 1877.

To be sure you can make your bees gentle, by rearing queens from those only that have that desirable quality. Let your crossest hybrids rear a lot of queens, and see how the children and grand-children will act. There is a very great difference indeed, in the behavior of bees, and it is not always the 3 banded bees that are the gentlest. We have one colony of quite dark hybrids, that are beautiful bees to handle; no smoke is needed at any season, if we use proper care, and do not pinch or crush them. Very likely their being so gentle is much owing to their being handled so often, for I have known bees that were remarkably good, made so vindictive by some accident that injured a number of them, that they did not get over it for a long time. I have also succeeded tolerably well in making very cross bees gentle, by careful handling. It is a little significant, that all the colonies we are in the habit of handling often, are always gentle. I have at times thought that the cross bees were the best honey gatherers, but so many exceptions have been noticed that I am inclined to think it is just as it happens. You can make your stocks gentle by selection, as well as you can make a flock of black ducks white.

OUR FRIENDS IN THE SOUTH, AND SOMETHING ABOUT HONEY.

I SEE you have but few communications from the South and have concluded to pen you a few lines. My apiary is situated at Fort Hawkins, the geographical center of this State. I cannot get the yields read of in the Western States. There are two advantages we have—warm winters, and no foul brood. In winter I let them remain on their summer stands, and I have never known of a single case of foul brood in this section. The box gums are often destroyed by the moth worm, but with the movable frame hives and proper attention no loss occurs. This has been one of the best honey seasons I have known, and for a honey yield the dry weather has been uncommonly favorable. Have had honey dew in abundance. The upper surface of the leaves of the poplar, white oak, and many other trees was covered with a glutinous and very sweet exudation, for a longer time than usual, and the bees are collected amongst them in great numbers from morning till night. I have been able to extract sealed honey twice this season, and it is ready for extracting the third time. when heretofore once was as much as I dared to do for fear of impoverishing the colonies—for wintering. The yield has been about 50 lbs. to a hive at two extractings, and one hive yielded 205 lbs.

The demand for honey is small, and the prices at the low figures of 12½ to 15c for extracted, and 15 to 20 for virgin comb. The valuation of hives and colonies is also very low—5 to 6 dollars for L. 2-story hives, and sales very few at even these low prices.

There are better localities than mine to be found near the extensive river forests of the Ocmulgee, which might equal the West in honey yields. Very few in this county use the movable comb frames. A neighbor and myself were the first to Italianize in this section. Many swarms have escaped from us, and in the surrounding counties are occasionally found hybrids. J. A. NELSON.

Fort Hawkins, Macon P-O., Ga., July 25, 1877.

FDN. MACHINES, STARCH VERSUS SLIPPERY ELM, ALBINOS, ETC.

WE have had only one complaint in regard to the working of the fdn. machines, and this came about by our forgetting to state that the sheets should always be dipped lengthwise, i. e., that the dipping boilers should be tall and deep, rather than long and shallow. In dipping, the lower edge of the sheet is always thickest, but this does no harm, providing it is put through the rolls so that both edges are of a thickness, and not so that one edge is thick and the other thin. After our friend got over this difficulty, he seems to have struck on some very valuable points, as follows:

I have discovered a substitute for slippery elm. I prepare starch with boiling water, precisely as the women prepare it to starch clothes, and use it exactly as you direct the elm to be used. It has many advantages over the elm. Everybody has it, and it takes but a moment to prepare it. It is every way nicer to handle than the elm. It adheres to the rolls much better, and never permits the wax to stick to them. Try it, friend Root, and I think you will never go back to your fussy, slimy elm.

We have made another discovery. My frames are exactly ten by fifteen inches inside. Now to fill a frame with fdn. from our little five-inch machine, I take three sheets nine inches long and suspend them from the top bar by one end, allowing the edges to overlap about one-eighth of an inch. Where the lap occurs the bees fasten them together, and in two or three days no man can tell that the beautiful sheet before him was ever in three pieces. So well am I satisfied with this that I would not give five dollars more for a larger machine. I find it necessary to have the fdn. at least one inch from the bottom bar when first put in, and a half inch from the sides.

Your mention of Albino queens, reminds me of one colony of bees I have now. The queen I raised this year from one I procured last year from Oatman. There is nothing peculiar about the queen that I can see, but there are workers from her with three different markings. There are perhaps two-thirds of them that look like other Italians, while most of the other third have the usual yellow just behind the wings, but the *bands* are distinctly white, as is also the usual buff patch on each side the jaws. There are then a few bees in number that have not one particle of yellow on them. The abdomen, when seen just right in the sun, is an almost steel blue with narrow white bands. How will you account for this?

It is ridiculously amusing at this late day to see adverse reports on the use of comb fdn. I would not take natural comb as a gift, to use as such.

By the way, I would like to see in GLEANINGS a complete history of the invention of artificial combs. We know all about the invention of movable frames, extractors, &c., but I have never seen in print the history of the more important invention of artificial combs. A. W. FOREMAN, M. D.

White Hall, Ill., August 12, 1877.

As sure as you are alive, starch answers the purpose beautifully; friend F. we owe you a big vote of thanks, if nothing more. Since the Albino subject has come up, we too, have noticed curious marking among the bees of different colonies. Very likely we shall soon have bees of as many colors as verbenas and pansies, if those who are curious will follow up the hints dame nature is throwing out to us. Wagner's experiments with fdn., will be found on page 143, Vol. IV. An account of Mehring's experiments in 1859, will be found in the *B. K. M.*, page 145, Vol. IV.

WHAT WAS THE MATTER, LOAFING BEES, &c.

NOW Sir, the first thing I want to know this morning is—what is the matter with one colony in an L. hive? Yesterday I was showing several of my neighbors how nicely I was fixing them and they were all working well and peaceably. This morning I went out early and found the grass thick with bees crawling away, and immediately under the portico there was at least a quart of dead and half dead ones, and still the killing and dragging out going on; but for all this, a great many workers were going in heavily laden. All the other hives were also carrying in heavy loads.

I have another stand on the old long box plan. I put a new swarm in it this spring; they soon filled it and two honey boxes on top, and then began to lie out and have continued to do so in such vast numbers as to cover the hive entirely, and this has been the case for two months. About two weeks ago I took the two honey boxes full from them and put a large cap on top thinking this would give them more room; they have gone to work in it, but they still continue to lie out as much as ever.

Now, besides this one, I have several hives from which the bees have been lying out for two weeks. Some in Langstroth and some in box hives and they have not begun to work in the boxes on top at all. They won't swarm, and they won't go to work, although the bees from the inside are at work as finely as any I ever saw. I think it can't be for the want of room that they hang out, because they have two to three honey boxes on top to fill, and they have not worked any in them on either the Langstroth or the box hives. I want you to tell me what is the matter and what to do. JAS. B. WILDER.

Taylor's Station, Ky., August 3d, 1877.

The matter is that some other swarm came out and tried to make its way into the hive. The clustering out business is sometimes rather hard to cure; but if you give them section boxes or frames, furnished with fdn., you will almost always, get them to go inside and go to work. If they will not, just carry the hive away, give them a comb of brood and a young queen on the old stand, and they will get over their "aristocratic" ideas and go to work in short metre. Where you have bees enough and want honey, this is not just what is to be desired, but it will start them to the fields, every time. Keep your hives in the shade, give them room and fdn., and you will seldom need to move the hive.

GLEANINGS IN BEE CULTURE.

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A. I. ROOT.
EDITOR AND PROPRIETOR.

MEDINA, OHIO.

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MEDINA, SEPT. 1, 1877.

And forgive us our debts, as we forgive our debtors.
—Matthew, 6; 12.

* * *

We have a colony that produces drones with heads as red as a cherry; the color is bright and vivid, and they look as if they were out for a general training, or masquerade. Do you have any such at "your house?"

* * *

Some of our customers have objected, because we do not rear all our dollar queens in our own apiary. This would be entirely out of the question, with the "run of custom" we have had in that direction, but as we have furnished all our queen raisers about here, imported queens, we trust all we send out, will prove satisfactory.

* * *

We have recently had some "new" bee-sting remedies sent us; but so far as we can see, they are just like all the rest, really worse than nothing at all, especially where they advise rubbing the medicine "in." By rubbing and fussing, almost any sting will become swollen and painful, but if let alone, almost any sting will cease to trouble in a few minutes. There is a vast difference in the severity of stings.

* * *

We must again caution our friends about sending small lots of wax, long distances, by express. In some cases the charges have been almost as much as the value of the wax. Save, until you get enough to send it by freight, or get your neighbors to join in and send with you. If the distance is considerable, you should send not less than 50 lbs. at a time. Be sure to put your name either on or in the box.

* * *

Friend Townsend of Hubbardston, Mich., lost an imported queen by leaving the hive open while introducing her to hatching bees. The hive should always be closed until bees enough have hatched to make a cluster for her, or they may get off the combs and all crawl out of the hive in a demoralized condition. We are succeeding so well by the method given in our A B C, that we have abandoned the hatching brood plan.

* * *

Extracted honey, a choice article, brings only about 10c. in the cities, and from 12 to 15c. by the pound at retail, as a general thing; so if you can do as well or better near home, by no means think of sending it away. Just now, people are demanding comb honey in small sections, but there will in all probability be some reaction, when they discover that extracted honey is just as good, and so very much cheaper. Keep a sharp lookout, and furnish just what is asked for.

* * *

We congratulate friend Newman on having struck upon the bright idea of giving us the Dzierzon theory in a neat little pamphlet. This theory has been attacked from all sides for many years, yet like the Copernican theory of old, it stands as firm as the hills. Some of our young friends who are so hasty in deciding that the drone progeny is affected by the fertilization of the queen, had better give it a careful reading. It is a good thing for us all to read over carefully, even if we have once been over it in the first volume of the *A. B. J.* If there is anything you do not get hold of, in regard to queens, drones and fertile workers, you had better read it. If thoroughly studied, it would save many a column of queries and long stories, in all our Bee Journals. We mail it for 20 cents.

* * *

Now my friends if your bees are getting no honey when this reaches you, you had better set about getting them ready for winter. If honey is coming in, all right, but be sure you do not deceive yourself. If the hive is increasing in weight, of course they are getting honey, and you can tell by the looks of the combs, with a little practice, whether they are gaining or losing. If they are not gaining, give them about a half teacupful of sugar stirred up with a little water, every night, until they have enough in their combs sealed up for winter. It will be safer, to have all your feeding done up this month, rather than to wait until next. The cheap wooden feeders we illustrate in this No., answer the purpose nicely, and to give them a full test, I have put them into the hands of some very young, and inexperienced bee-keepers in our neighborhood.

* * *

Well, for one month, we have really enjoyed the dollar queen business. A great part of the time, the queens have been already caged, piled up on our table, and when the orders came, we astonished our patrons by a nice queen, before they even had time to feel impatient. The queen cages with the sugar cake in them answers most beautifully, for shipping. We have sent them long distances, and only a single complaint has been heard from them; as we have not had time to investigate, the trouble in this case may not have been in the cage. The sugar never daubs them, never gets loose, and yet it will supply food for the queen and bees for something like two weeks. They are very handy indeed about the apiary, for the bees can never get the candy away from the queen, and while being caged in the hive, she is always well fed. Be sure to close the cage as soon as the queen is released, for if the bees get in, they will lick up the whole in a twinkling. I do not know that I have ever been better pleased with any implement in the apiary, and they seem to be the one thing needful, to make dollar queens a success. The best part of it is, they cost only 5 cents. If you wish to see how nice a job we can do for the money, send us 6 cents and we will mail you a sample.

* * *

Will you please inform me as to the value of sweet clover as a honey plant, if cultivated as a crop for that purpose? I find that the bees will leave everything else to work on it, and it blooms for two months here.
J. B. Olmstead.
Bloomington, Ill., Aug. 10th, 1877.

[Friend Townley when here, stated that he once tried about a half acre of the sweet clover, and that it grew with cultivation, to a great height; it kept the bees roaring on it, for months, in preference to anything else. With us, bees only work on it at times. Should be glad of further reports.]

* * *

Your hive, with the sawdust entrance, would, in this section, cause the toads to congregate and *roost* near by, and make regular "draws" like pension widows; and if the walk board is not set *steep* they will crawl up and take supper. "Make a note on't."

We have had a good honey season after two desperately bad ones, a regular old-fashioned honey dew.
W. H. Riggs, Russelville, Tenn., July 11th, '77.

[Go round your apiary just at dusk, with a hoe, and bury all the toads you find, but be sure you do not bury them alive. If your apiary is neat and tidy, they will not find many hiding places.]

FEEDING AND FEEDERS. As a general rule, I would not advise beginners to take away and sell their honey, with the idea of feeding their stocks up in the fall with some substitute for honey; and if a person is inclined to be careless and neglectful they had better never think of feeding at all. Leave the 10 combs in the lower story untouched by the extractor, and you will very seldom have reason to feed. If you use section boxes in the lower story, you had better take them all out in time to let the bees fill combs for winter stores, in their place, unless you have very heavy surplus combs laid away, that will contain on an average 5 lbs. of sealed honey each; in this case, give them 6 of these combs and a chaff cushion division board on each side of them in place of the sections, and you have them then in the safest shape for winter, you can possibly, providing they are in a chaff hive, (according to *my* ideas of wintering). Now if we were only sure of having the well filled surplus combs, we might skip "feeding" entirely, but alas, there will come seasons and circumstances when we must feed. I have never known a season when a colony of Italians with a good queen would not get an ample supply for winter, and furnish some surplus; but I am told there are such occasionally, and the present one—1877—is said to have left many in a starving condition in California, right in mid-summer.

Again, where one raises bees and queens for sale, they may divide and sub-divide to such an extent as to have many colonies with bees enough, but with too little food. The only remedy in these cases is to feed.

WHAT TO FEED.

If I had sealed honey in the combs, I should use it for giving the requisite stores in preference to sugar, unless I could sell it for more, pound for pound, than the sugar could be purchased for. If the honey is late fall honey, such as buckwheat, golden rod, autumn wild flowers, etc., I should consider it just as safe as any other, if well seasoned and ripened, unless I had by actual experiment good reason to think otherwise; in such a case I would feed sugar. Quite a number of reports have been given that seemed to show bees wintered safely on the spring honey, or that gathered in the early part of the season, when others in the same apiary were diseased badly, if all this spring honey were extracted, and they were confined to the autumn stores for winter. Whether a chaff packing around them would enable them to use such honey with safety or not, remains to be shown, but I have much faith that it would, for all the bad honey I have ever experimented with, could be used with perfect safety in warm weather.

Well, supposing we have *not* the honey in frames, what then? If we have extracted honey two questions come up; which is better, sugar syrup, or honey? and which will cost the most? I would unhesitatingly take syrup made from A sugar, in place of the best clover or any other kind of honey, if offered at the same price. I say this after having fed many barrels of sugar, and after having carefully noted the results of feeding both sugar and honey.

In regard to expense: a gallon of water to 20 lbs. of sugar will make 28 lbs. of nice thick syrup, and as the sugar is now worth about 11 cents by the barrel, our syrup will cost us about 8 cents per lb. I think if my extracted honey were all ready to ship, and I could get 10 cents cash for it, I would sell it and buy the sugar. Perhaps a safe rule will be to say that whenever we can trade a pound of honey for a pound of sugar, we had better do so, for the difference in favor of sugar will certainly pay for all the trouble of making it into syrup.

In regard to the cheaper grades of sugar than the standard A, I will say that I have used the C sugar, without being able to detect any difference in the results; but as the price is but very little different, I rather decided in my own mind, without any definite proof, that the A contained about the same amount of pure sugar, *for the money*, as did any of the cheaper grades. I also fed a few colonies for winter on the cheapest brown sugar, and somewhat contrary to my expectations, they wintered equally well. I have not used brown sugar extensively, because in my experiments with candy for feeding, I discovered that burnt candy or sugar—caramel—was certain poison to bees when confined to such stores in cold weather. See CANDY. As brown sugar frequently owes its color and taste to this same caramel, I have been a little afraid of it for winter stores, although it may transpire by actual test, that the amount is too small to be of any injury. I have never given grape sugar a trial, but as it is said to be offered as low as 3½ cents, I shall take steps to do so at once, and will report.

HOW TO FEED.

Although the number of feeders described, invented, patented, and offered for sale are almost without number, I would pass them all without notice (and I have pretty thoroughly tried nearly all of them), except the simple atmospheric or "pepper box feeder," that has been so often described. A pepper box explains the whole principle, if you fill it with water and invert it, and in fact you may use the cheap tin pepper boxes for feeders if you have but few colonies. Fill one with honey or syrup, place it in front of the hive at nightfall, and you will find it all taken into the hive by morning, without a single bee or any part of the hive having become daubed or sticky; those who have fussed with feeders know how untidy and disagreeable everything soon gets, unless great care is taken.

I would feed outside the hive, because I think the bees behave more naturally when the food comes in this way, and because by so doing the labor of opening and closing the hives and disturbing things inside for the accommodation of a feeder, is avoided; also, if we feed during the day time, the bees all stay at home, and the honey that might otherwise have been gathered is lost. I have several times fed stocks during the fall to build them up, and although they were induced to take many pounds of honey or syrup, they would be in no better condition than others that had not been fed at all, for they "loafed" and fussed with their feeder, while the rest were doing very fair day's works. Again, I once gave a particular colony all the cappings during extracting time; the honey they got out of them amounted to 3 or 4 lbs. per day, but this was only about half as much as we were before getting from them, and we soon became satisfied that the honey in the cappings was even worse than thrown away, for it had induced the bees to stay at home, when they would otherwise have gathered a much larger quantity from the fields. This result has followed feeding so many times, that we are loth to resort to it, when it can be avoided. Feeding sugar, especially the cheap sugars, is less liable to disturb their work in the fields, than honey, for they will desert the sugar as soon as honey is to be obtained even in small quantities.

The feeders we use generally, are one quart fruit cans with a cover of perforated tin; these cost only 10 cents each, and they are pretty sure to be emptied in a single night. When placed in front of the hive near the entrance, they should be slightly raised with bits of wood, that the bees may have a fair chance at all the holes in the cap at once. If by any means the feeding has been delayed until very late, or if you have many colonies to feed and but little time in which to do it, you can use a feeder that will hold enough at one time to give them their winter rations. This size has been termed a "tea-kettle feeder" on account of its size and shape. I have with such a feeder given a colony 25 lbs. of syrup in less than a half day. These large ones we place in the upper story, as they may not be emptied in a day or two. If they are set directly on the frames, right over the brood, they will be emptied soonest. When these feeders are first inverted it should be done over a pan of the syrup, for a little will run out before it gets level and quiet. After inversion, they may be carried to any part of the apiary.

HOW TO MAKE THE SYRUP.

After stirring the sugar and water you can boil it if you choose, but I assure you it does not do a particle of good, and should you burn it a little, it may do a great deal of harm. If you have an extractor, pour in your sugar, and some boiling water on it, then turn briskly, and your syrup will be all ready to draw off into the feeders. I have fed a barrel of sugar in less than 3 hours and had it all done with, except removing the feeders when they were done. The barrel was broken open in a large tank, and the staves and heads were washed with a tea-kettle of boiling water. More water was poured in, and the whole was stirred with a hoe, until it was a fair syrup. Large feeders were then filled and placed on a shelf in the tank, until they had ceased to drip. From this they were removed to the hives just at dusk, that no robbers might interfere. When all were filled, the tank was rinsed out with the tea-kettle, and the rinsings placed over a hive, in the feeder, so that not an ounce of sugar was wasted. There is no need at all of cream of tartar, vinegar, or anything of the sort, for abundant experiments have shown that sugar and water is all that is needed, and it matters very little what the proportions are.

FEEDING FAST OR SLOWLY.

I have not been able to see that it makes any material difference whether we feed it all at once, or a little at a time for wintering purposes only, but for brood rearing it is assuredly best to feed a little at a time, say a pint every night. I have during severe drouths reared queens, brood, and had beautiful comb built, by the latter plan.

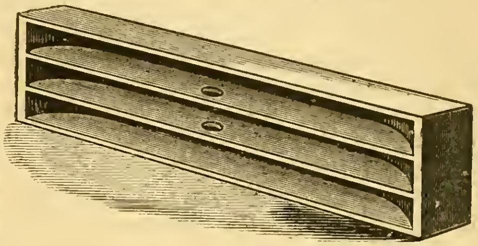
WHEN TO FEED.

Although colonies have been wintered well when fed after cold or freezing weather, I think much the safer plan is to have it all done during warm dry weather, that they may have it all ripened and thoroughly sealed up. If you have been so careless as to have bees that are in need of stores, at the beginning of winter, I would advise frames of sealed honey if you can get them, and if you cannot, use CANDY, which see. If the candy is covered up with warm chaff cushions or something equivalent, it may be fed at any time, although it does not seem to be as satisfactory under all circumstances as stores sealed up in their combs.

In feeding in cool or cold weather, you are very apt to uncover the cluster, or leave openings that will permit the warmth from the cluster to pass off. I have several times had colonies die in the spring after I commenced feeding, and I imagined it was from this cause alone. When they first commence raising brood in the spring, they need to be packed up closely and snugly; making a hole in the quilt or cushions above the cluster, and placing the feeder over this so as to close it completely, does very well, but is not after all, as safe as giving the feed from below; for feeding in early spring, especially if the stock is weak, I would prefer the candy, or well filled combs of sealed stores.

Since the above was written, we have had quite an August drouth, and it has given me an opportunity of making a farther test of the different modes of feeding for the purpose of inducing brood rearing, and of keeping colonies from starving. Plenty of pollen was to be had from the corn fields, though but little, if any honey. Old stocks hung idly a great part of the day, in and on the hives, and nuclei either ceased rearing brood entirely, or reared very little. Many of the queens stopped laying entirely. At this stage a little feed during the night would start the queens laying wonderfully, and the fed colony would rush to the fields for pollen in a way that demonstrated at once that feeding at such a time, was a *very* profitable investment, if one wished to build up weak stocks and nuclei. A stock that had been fed a half teacupful only, would go out for pollen an hour earlier than the others, and would bring in double the quantity. A still smaller quantity, will set them to building out foundation most beautifully, and I never in my life saw the work in the hive go on so satisfactorily, as it did during the hot dry, dusty days, under the influence of a very moderate amount of feeding during the night. I take great pleasure in giving you a feeder, that I think in several respects, rather ahead of the former one.

Get a piece of pine, or other light soft wood, two inches thick by three wide, and about a foot long; with a buzz saw set wabbling, plough grooves in it, three in number as shown in the following engraving.



BEE-FEEDER.

We have shown it turned over on one side, that you may see the way in which the grooves are sawed out, so as to leave two thin partitions through the middle. The holes from one partition to the other are to allow all three of the apartments to fill up at once, that the danger of running them over when filling may be avoided. I confess when I made the first one, I was a little fearful, that the bees would drown in them after all, but when I saw how they clung to the wood as they sipped the honey, I had no fear, and after a trial of them for several weeks with all kinds of feed, all the way from sweetened water, to syrup as thick as tar, all kinds of candied honey, sugar and water stirred up hastily in all proportions, &c., I have yet to see a single dead bee in a feeder. They may be used inside the hive, in the upper story, before the entrance, or where you choose.

They are always emptied in a twinkling, and with perfect safety to the bees. Where we are building up stocks, we set them in the hive, close to the division board. For a full colony, we set them just before the entrance; if the hive has blocks and a portico, set them across from one entrance block to the other. In this case they may remain there as long as you are feeding. All you have to do is to go round with your coffee pot of feed just at dusk, and fill them up: you can not drown a bee, even if they are crowded into the feeder when you pour it in. Pour it right on their backs, and all over them; they will like it all the better that way. For feeding the two frame nuclei—see QUEEN REARING—set the feeder on the end of the shelf, in front of the entrance. To get them started, pour a little of the feed into the hive; they will very soon "boil out," and discover the feed. Even a weak nucleus, will empty the feeder in a very short time—long before morning. If you have but a little feeding to do, just put some sugar in the trough, wet it with a little water, and it is all done, without even soiling your hands.

With all the desirable qualities of these feeders, they are cheaper than anything that has heretofore come under our notice. The size we have mentioned, holds about one pint, and if you can not make them conveniently, we will furnish them for 5c each, or sent by mail post-paid, for 10c.

FEEDING TO PRODUCE COMB HONEY.

You *could* feed white sugar, so as to produce very nice looking comb honey, but it would be sugar syrup in honey comb, after all, as you would find to your sorrow if you should attempt to sell it as honey; and furthermore, it is doubtful if you could do it without losing money, were such not the case. Many are the attempts that have been made to produce honey by feeding sugar; but all have resulted in failures. Where you can purchase nice white extracted honey for 10c, you may be able to feed it so as to make it pay, if you can get 20 or 25c for the honey in the comb. Several of our neighbors have fed out their extracted honey in this way, and they think it can be done profitably, with the aid of the foundation. This should all be done by a few colonies, because they must have quite a quantity, perhaps 25 lbs., before they are in shape to build comb. The feed should then be given as rapidly as possible, if we wish to get nice white honey; for the quicker we can get our comb honey out of the hive, the whiter and nicer will it be. Bees when fed, are to some extent demoralized, and forget to be as particular as they usually are, about being neat and tidy. Sometimes they will scamper over the white honey with dirty feet, like a lot of children who have been fed sweetmeats to an injudicious extent, and this we wish to avoid. I am just now making some experiments in this direction, and have found that a common milk pan placed in a third story, on a Simplicity hive, answers the purpose excellently. The first story contains the brood combs, the second, the section boxes supplied with foundation as usual, while the third contains nothing but the pan of syrup. The plan of preventing the bees from drowning, is very simple; a sheet of cheese cloth, is spread over the pan, before pouring the honey into it. I have had but *very few* bees, drowned in this manner, but it is not as clean and simple as the wood feeder, and as the cloth may get displaced, is not as sure of success; the most awkward or inexperienced person, can hardly make a mistake or have a mishap, with the former, and it is very desirable indeed to have implements for bee culture which possesses such qualities.

CAUTION IN REGARD TO FEEDING.

Before closing, I would most earnestly caution the inexperienced to beware of getting the bees robbing. I have advised feeding only in the night time, to avoid danger, for attempting to feed in the middle of the day will sometimes result in the robbing and destruction of strong colonies. Where food comes in such quantities, and in such an unnatural way, they seem to forget to post sentinels as usual, and before they have time to recover, bees will pour in from all the hives in the apiary. I do not know who is to be pitied most at such a time, the bees, their helpless owner, or the innocent neighbors and passers by. *Sometimes*, all that can be done is to let your colony slide, and wish for it to get dark that the greedy "elves" may be obliged to go home. Now when you commence feeding, remember that my last words on the matter were "LOOK OUT."

SMOKERS. We can drive cattle and horses, and can to some extent drive even pigs, with a whip, but one who undertakes to drive bees in any such way, will find to his sorrow, that all the rest of the animal kingdom are mild in comparison, especially as far as stubborness and fearlessness of consequences are concerned. You may kill them by the thousand, you may even burn them up with fire, but the death agonies of their comrades seem only to provoke them to new fury, and they push on to the combat with a relentlessness which I can compare to nothing better than a nest of yellow jackets that have made up their minds to die, and to make all the mischief they possibly can before dying. It is here that the power of smoke comes in; and to one who is not conversant with its use, it seems simply astonishing, to see them turn about and retreat in the most perfect dismay and fright, from the effects of a puff or two of smoke, from a mere fragment of rotten wood. What would we bee-keepers do with bees at times, were no such potent power as smoke known?

A great many colonies of bees, common

as well as Italian, can be handled almost the season round without smoke, while there are others that it would be almost madness to attempt to handle in the same way. With a little practice, we can decide before going far enough to get stung, whether it will be safe to attempt handling them without smoke.

When away from home, if I have occasion to handle a colony, I test their gentleness, by proceeding to open the hive as carefully as possible. If they rush out in a great body as soon as an opening is made, I wait a little to see if they will go back soon; if they do not, but show a disposition to fight, I hunt up a couple of pieces of rotten wood, and get a coal of fire to put between them. With this, smoke can be blown on them, until they are driven out of the way, down among the combs. If a coal of fire is not handy, light the wood with a match, but it takes more time to get it going. If compelled to use a match, a roll of cotton rags is very convenient, as it lights quickly. If it is carefully extinguished as soon as done with, a roll of rags will do very well for a small number of hives. With a large apiary, rotten wood chips or sawdust, is much cheaper than the rags, and to use them conveniently a pan or kettle is often used. Several of our neighbors who keep bees largely, use such a kettle with a long bail, fixed so that it always stands upright, that the operator may not be obliged to stoop every time he wishes to pick it up. In the kettle, are put chips, sticks, sawdust, &c., and when it is once started, it will keep burning for a whole day. If it burns too strongly, some damp sawdust is thrown on, and when not in use, the fire smoulders invisibly. When smoke is wanted, the kettle is given a shake by the bail, and at once a dense smoke arises. If this smoking kettle is placed at the proper side of the hive, the wind will throw the smoke where wanted, leaving both hands at liberty. Where robbers are bad, this is a very convenient arrangement, for it not only keeps the bees in the hive in subjection, but keeps the angry bees flying about in the air at bay.

I presume there are many who will use this kind of smoker in preference to any other. The objections are, that one is pretty apt to have smoke blown in his eyes very inopportunely, and I for one, would almost as soon be stung, as to be smoked. Another is, that bees frequently fall into the kettle, and the sight of one heavily laden little fellow writhing in death agonies on the burning embers, would be enough of a lesson for me. At one time, a queen fell into our kettle, and was only by rare good luck rescued. To prevent such mishaps, I thought of a wire cloth cover for the kettle, and as I had been using a small saucepan with a handle, in place of a kettle, with good satisfaction, it did not take very long to decide that a common corn-popper was just about what was wanted.

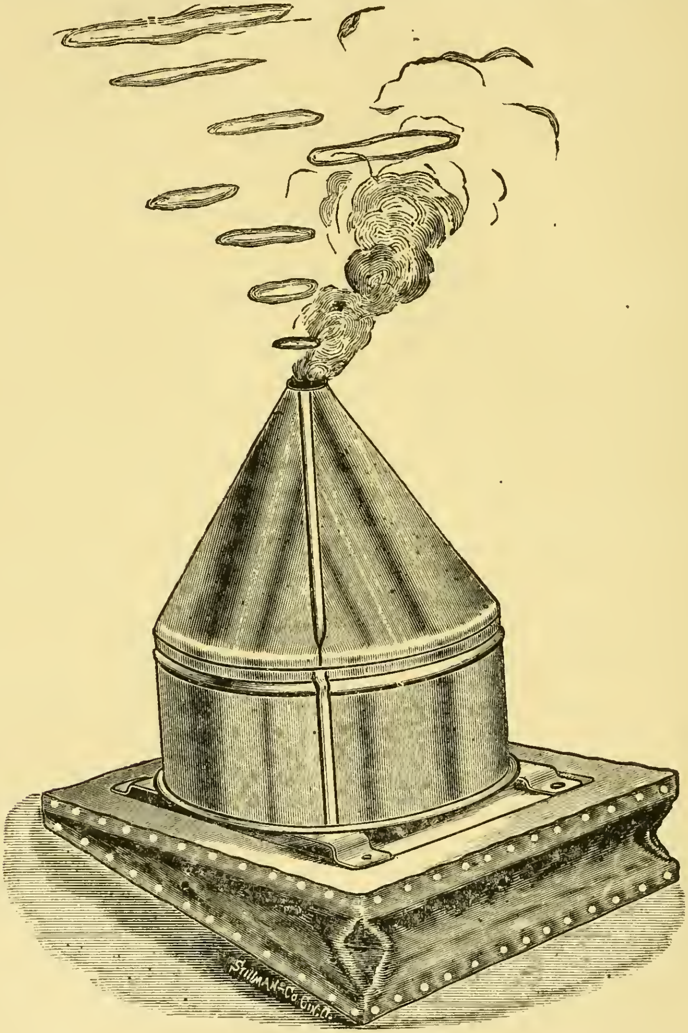
CORN-POPPER SMOKER.

This, when tried, proved to be in many respects very convenient, for it could easily be started burning briskly by whirling the whole about the head, like a torch, the ashes fell out of themselves, and for awhile, we thought we should want nothing better. The difficulty, however with this, was that it would often give too much smoke; it smoked the eyes, and it burned so rapidly, that it was quite a task to provide fuel. It is true that it never annoyed us by going out as did the bellows smokers, but it, on the other hand, did not offer the same facilities for throwing a jet of smoke down into the hive, or into any particular corner. With all the good points of the corn-popper, it was finally laid aside for the Quinby smoker again, even if it did try our patience sorely going out whenever it was allowed to tumble over, and many times when it did not tumble over at all. The Bingham smoker comes a little nearer to the kettle and corn-popper, in having a much larger receptacle for the fuel, and as one of the valves that Quinby used is dispensed with, it is not very likely to go out, unless it is overturned.

Although there are some who prefer a simple tin tube with a wooden plug in each end, to be held in the mouth, the majority of our bee-keepers, seem to be strongly in favor of the bellows smoker, and after trying to learn to like one, I find myself much like the rest. I should of course, much prefer a mouth smoker, to none at all. There is one point in its favor, it can be held in the mouth so that both hands are at liberty, but one that can be set on the ground so the wind carries the smoke over the hive, I think preferable.

FUEL FOR SMOKERS.

Perhaps rags work as nicely as anything, but as it would require a great many, for the wants of a large apiary, we must hunt up something cheaper. If we go out in the woods during a dry time, we can find rotten wood by taking some care and pains, that will ignite readily with a match, and keep burning. This is quite desirable for the smokers with a small narrow tube, but not so much so with those of a larger capacity for fuel, as it burns out almost too rapidly. For the latter, common stove wood cut into short pieces and split up, does very well. When some of the little folks are wanting something to do, you can show them how, and have a large basketful cut up and kept in readiness, in some dry place. The sound hard wood, will last much longer than the rotten wood. A couple of years ago, a friend sent us a box of a mossy substance, which I suppose to be peat from the swamps, but as it did not burn very readily then, it was laid aside and forgotten. This summer, however, I found our boys using it in their smokers, and as it lights readily with a match, and makes a great quantity of smoke, I am inclined to think we shall find nothing better. It is very light, can be cheaply shipped, and makes but a very small amount of ashes. I would advise those who have peat swamps near them, to make a trial of it. It takes quite a time to dry thoroughly, which is the reason we did not discover its valuable properties sooner; if cut into thin slices, it would probably dry much sooner. Ours came from W. W. Bird, Freedom Mills, O., who, if I mistake not, offered to furnish it for $6.00 per cord. We will send enough by mail to give it a good trial, for 5 cents.



THE SMOKER I PREFER.

You will observe from the cut above, that we have in reality retained the kettle idea, but the smoker is small and made of tin. To prevent its being overturned, we have given it a large base, like an oiler; it is in fact, something like the Irishman's wall, four feet high, and six feet thick, so that if it ever falls down, it will be higher than before. The bellows is simply a strip of strong leather, tacked to the edges of two square boards. That we may have nothing to get out of rig, we dispense with valves entirely, and have simply a hole cut in the bottom of the "kettle," to match a similar one, in the upper board of the bellows. By removing the upper part, we can kindle a fire with coals, or with some matches and sticks, as easily as we could in the fire place, and when the chimney is on, it will burn almost anything, chips, rags, or sound or rotten wood, and it is not very important whether it is wet or dry. After being once filled, it will burn several hours, and I do not know that any directions are needed for using it. If you wish to drive the smoke into any hive, first blow out the ashes, for if we are obliged to smoke our bees, we wish to give them clean smoke, and nothing else, and then blow the smoke just where you want it. The shape of the upper part, or funnel, is such that there is very little danger of any fire getting out, even if no wire cloth is used over the mouth, and if you first give it a puff to dislodge any loose matter, there will be very little chance of blowing ashes or fire among the bees.

One of the greatest objections to using burning rags, rotten wood, or anything else, in the hand, or in an open dish, is that sparks may get on the quilt, in the sawdust, or where they may do harm about the apiary. A visitor once showed me how I could use a piece of rotten wood in my hand, and in less than 24 hours, I got the sawdust on fire, and burned up one of my best colonies. During dry hot summer weather, it behooves us to be very careful. In the smoker, as shown in the engraving, the fuel is so safely enclosed, that it can be put away, even while it contains fire; and if undisturbed it will smoulder away slowly, until wanted. A few puffs will then give a brisk smoke, almost instantly.

Now aside from its good qualities for subduing bees, this smoker is a most excellent device for entertaining children. If you hold it by the upper board, and tap lighly on the under one, it will send out the beautiful revolving rings of smoke, that our artist has attempted to picture. When making the machine, I had no idea of producing this well known philosophical curiosity, and upon setting the first one made, down a little hastily, the spinning ring that ascended, enlarging as it went up, forcibly reminded me of the genii of old, who came out of the copper cup.

There is one more item in regard to these smokers, but my wife has forbidden me to mention it. As she has gone away to-day, I enjoy an unusual amount of liberty, and have conluded to take the risk. Many of you perhaps know that much thought has been spent in devising some means of handling refractory children. Shutting them up in a dark room, drenching them with cold water, and the like, have serious objections, but a bellows smoker——do you not see the point? After they are perfectly subdued, have promised to be good, and have got through wiping their eyes, you can show them the rings of smoke, just to make everything all pleasant again, "you know."

The price of the smoker will be 75 cents, or sent by mail in a stout wooden box $1.00. A larger size will be made for $1.00 should it be called for. As there are many careless people in this world of ours, the folks who live at our house included, we shall keep constantly on hand all the different parts, ready to send by mail. If you get excited and leave your smoker where it may be stepped on, we will send you a new tin case, for a few cents, or a new leather, if you should leave it out in the rain. As it is all put together with screws, anybody can take it apart.

◆

THE colony mentioned on page 248, that would not rear a queen, built a fine lot of queen cells, as soon as the queer looking worker was removed.

◆

I AM very glad indeed, to tell you I think there will be no difficulty in furnishing dollar queens from imported mothers, as light as any we have, and yet as good honey gatherers as the dark ones. At least two of our importation "fill the bill," but it may be difficult to send out *many* of them, before another season.

◆

NOW be sure you have no bees starve out and desert their hives about this time of the year, for it is a vast deal easier to go through the apiary and examine every stock and nucleus, than to chase after a single one that deserts for want of food. *Run no risks*, but if you find one that will probably be out in the course of a month, commence feeding it *now*, or unite it with another. Do not guess, but be *sure* they have an abundance. If you have more than you can take good care of, sell them or give them away *now*, rather than keep them half starved until spring, and then let them die. I have had some bitter experience of my own in the matter. If we go right to work this minute, getting our colonies ready for winter, I think it possible, with the light we now have, to winter without loss. Put your bees on as few combs as possible, get these combs heavy with solid sealed stores, and I will tell you what farther to do next month. It is much easier to go bee-hunting or visiting, than to stay at home and fuss with cross bees, after the honey season is over, but "business first, and pleasure afterward," is to be the motto of the bee-keeper.

A SUBSCRIBER objects to our advising the brown sugar, even for enticing robber bees away from the apiary, on the ground that we could not look our honey buyers in the face, and tell them our honey had not a drop of sugar in it. If he or others will test the matter, they will find that bees cannot be induced to notice brown sugar when at work in the boxes; but that the sugar is deserted entirely, as soon as any honey is to be found in the fields. The sugar is every particle of it used in the brood apartment, and if it is fed dry, as we advised, they succeed in carrying away but very little indeed. Any one who has tried feeding sugar to get comb honey will understand readily how utterly impracticable the idea is.

HIVES BY THE QUANTITY.

The demand for both Simplicity and Chaff hives in the flat, has been such as to warrant me in making arrangements to furnish them by the quantity, at very low prices. Now it is with these as with the fdn., we can only do it, by having them made up in quantities ahead, all boxed or crated, ready to ship. To avail yourself of these low rates, you *must* send the exact amount of money specified, and order them in the quantities specified. Printed instructions with illustrations, will be furnished for setting up each kind.

SIMPLICITY HIVES IN THE FLAT.

	Per hive.	Per pckg.
1 1-story hive, no insides nor bottom	60c.	$ 60
5 " " " " "	58	2.90
10 " " " " "	55	5.50
25 " " " " "	53	13.25
50 " " " " "	52	26.00
100 " " " " "	50	50.00

You can use your ordinary Langstroth frames in the above hives, or we can furnish you metal cornered frames for them, for just as much more; that is, the frames (10 to each hive) cost precisely the same that the hives do. You can cover the frames with carpeting or we can furnish a sheet of duck hemmed with tin, for the purpose, for 10c. Two of the above hives make a complete two story hive, the cover of one of them, then being used as a bottom board. If you wish comb honey instead of extracted, fill the upper story with sections instead of frames. The 56 1 lb. sections, with the 7 broad frames and separators, including fdn. starters, will cost *three* times as much as the 10 metal cornered frames. The sections and fdn. cost but little, but the broad frames to hold them are pretty expensive with the tin separators. However, as a set will last indefinitely, we have only to purchase the sections, after we once get started.

CHAFF HIVES IN THE FLAT.

A Chaff hive is always a two story hive, and can be used in no other way; as the walls are double, the expense will be *three* times that of a one story Simplicity. Furnishing the lower story will cost just the same as the Simplicity, but as the upper story is wider, it will cost *one-half* more.

No nails are figured in the above price, but we can furnish them for 5c. per lb. A single story needs about ⅓ lb. to make it good and strong. An iron gauge frame is needed to nail the Simplicities conveniently, price 50c.

I have thought best to give you this list thus early, that you may decide in time, about hives for another season.

THE A B C OF BEE CULTURE.

FOR the past few days, we have spent considerable time in going out bee hunting. Do you know why? Well, it is because I must write an article for the A B C for next month, in regard to trapping wild bees, and I do not wish to write a single thing for the A B C without at least *some* practical experience in the matter. I am selling a great many books on bee culture, and many are the questions asked in regard to their teachings. I can not be responsible for the teachings of other writers, but I do intend to be responsible for all that appears in the A B C; and furthermore, I have been to the expense of purchasing the type for the whole of it, that every mistake or wrong statement may be corrected, just as soon as it is found to be such. The sheets are to be printed, only as fast as they are sold, that none of the information may be old, or behind the times. Subscribers to GLEANINGS, of course get the whole, without charge; but our inquiring friends who are not subscribers—and there are many—will be supplied for 5c each No.

No. 1 contains—ABSCONDING SWARMS, (Swarming out for want of food in early spring, Nucleus swarms, Runaway swarms of all kinds and all the usual means for preventing losses from this cause). AFTER SWARMING, (How it comes about, Several queens in one, Shall we prevent them? What to do to make them good stocks etc). AGE OF BEES, (Age of queens, workers and drones). ALIGHTING BOARDS, with illustrations, (Importance of convenient ones, Sawdust for, just as good as the most convenient, Porticos more for ornament than real use etc). ALSIKE CLOVER, (Mode of cultivation, Time of blossoming, Value for honey and value for seed and forage). ANGER OF BEES, (Why they are ill tempered and how to keep them good etc). Price 5c.

No. 2 contains—ANTS, (In what respects they are harmful, The best means of getting rid of them etc). APIARY, (Where to locate, Wind breaks, the importance of and how to make, The Vineyard Apiary with diagrams and illustration, The Chaff Hive Apiary, with illustration, The house apiary, with diagram and illustration, Comparative advantages and disadvantages of the above three etc). Price 5c.

No. 3 contains—ARTIFICIAL COMB. ARTIFICIAL FERTILIZATION, (With accounts of the attempts and failures). ARTIFICIAL HEAT, (For raising bees, Its failures). QUEEN REARING, (Nucleus hives for rearing queens for market illustrated, How to get good queen cells, When to cut them out, How to do it, How to insert them, Profits of queen rearing etc). Price 5c.

No. 4 contains—MARKETING HONEY, (What shape to have comb honey built in, Shipping case for comb honey illustrated, Taking it from the hive, Importance of neatness to secure the highest prices etc). CLIPPING QUEENS' WINGS, QUEEN CAGES, (How to make, with illustrations). COMB BASKET, illustrated. INTRODUCING QUEENS, (How to find and remove the old queen, How to release the queen etc). Price 5c.

No. 5 contains—FEEDERS, AND FEEDING, (What to feed, When to feed, How to feed, Feeding fast or slow, Feeding to build up colonies, Feeding for winter, How to make the syrup, and the simplest feeder illustrated. SMOKERS, Corn-popper smoker, Fuel for smokers, The smoker I prefer, illustrated, etc). Price 5c.

No. 6 contains—BEE-HUNTING, (How to make a hunting box illustrated, How to get the bees started on the "bait," How to follow the line, How to find the tree they are in, How to make a pair of climbers illustrated, How to climb the tree, How to get the bees out so as to save them, Transferring them into a hive, Habits of wild bees, Best season for trapping wild bees etc). Price 5c.

The above six Nos. (48 pages, size of GLEANINGS) will be mailed for 25c. I am working hard to make these practically valuable; and if I succeed in furnishing you with a complete and comprehensive answer to almost any question you may ask, explained by expensive engravings when they will assist, you will willingly pay me the 5c. each will you not?

Notes and Queries.

The honey extractor ordered of you came in good order, and I am well satisfied. I extracted one barrel in about 10 hours by myself. V. P. Dupuy.
Plaquemine, La., Aug. 4th, 1877.

The foundation of 5 cells to the inch is a great success; but that of 4½ to the inch you sent me last year is a complete failure for breeding purposes.
O. J. Hetherington, East Saginaw, Mich., July 30.

The bees are carrying in honey like fun, and it is taken away as fast as we get it from the hive. Extracted at 12½ cts., and in sections at 20 cts. per lb.
Cyrus W. McQueen, Buena Vista, O., July 10.

[Prof. Cook writes as follows in regard to the Bingham smoker.]

You may say for me that your smoker is the best in the field. I shall say so in future, till a better one appears. A. J. Cook, Lansing, Mich., August 8th.

The fdn. machine came in order. Much obliged for your promptness. In a few hours we mastered the difficulties and now we turn out splendid fdn. This invention marks an era in bee culture.
M. D. Minor, Port Jackson, N. Y., Aug. 8th, '77.

How can I cool bees-wax in large cakes without its cracking? P.

[I know of no way unless the cracks are filled up with more melted wax when the cake is partly cool. Wax contracts very much in cooling.]

Section honey sells well here, and even buckwheat honey in sections will take. As soon as harvest is over and I have time, I will detail for your Gleanings, my trials, tribulations and triumphs in the section business. R. L. Joiner.
Wyoming, Wis., Aug. 1st, 1877.

From my 30 colonies I have taken upwards of 1900 lbs. of honey, all sealed before extracting, and about half my hives are again full and sealed up. If the weather proves favorable, I will get that much or more from the sourwood. J. F. Montgomery.
Lincoln, Tenn., June 15th, 1877.

I made a Doolittle smoker, as described in Gleanings of July, 1877, page 176. I am pleased and astonished at its simplicity and utility. I have been using pieces of rotten wood but the smoker is superior as very small bits of wood can be used, and I for one thank friend D. for giving it to the public.
C. C. Shipp, Spring Dale, Aug. 2d, 1877.

Is there in all the land, a climbing vine that bears honey producing flowers? If so, what is it, and where can the seed be found? I want something of the kind to construct a sun shade for my bees.
D. B. Baker, Rollersville, O., July 16th, '77.

[At present we do not think of any such vine that bears honey largely, although we believe our readers have mentioned something of the kind. Will the friend who did, please "rise and explain."]

Now, we don't belong to that class of friends to whom the question was put, but if you will excuse the impertinence, I will make a suggestion in regard to painting those shipping cases. Try shellac polish on well made *clean* pine. The honey will not lose anything by the contrast; it dries in a moment, and it can be washed like a pane of glass. A pencil mark or anything that is on the pine when the polish is applied will remain permanently.
R. M. Reynolds, East Springfield, O., Aug. 11.

HONEY FROM CORN.

Do bees gather honey from corn when in bloom? One of my neighbors who has kept bees says they do, and that the honey is excellent in quality and has a pleasant corn flavor. Henry Mortimer.
Manteno, Ill., June 16th, 1877.

[Good careful observers, state that bees do at times get honey from corn, but we have never seen them do it. At present, ours gather large quantities of pollen from corn, and it, without any doubt, saves their stores of honey; for young colonies and nuclei, that bring it in, are building up while others would starve if not fed.]

Heads of Grain,

From Different Fields.

Let me caution you about packing section boxes as fast as taken from hives. If kept in a warm place moth eggs will hatch and destroy your honey. To keep bees from cider and sorghum mills, cellar them; it is the only effectual way. Give them a week's fly at the least, afterwards, more if possible. I rejoice with you in the success of chaff in warm weather. R. L. Joiner.
Wyoming, Wis., Aug. 3d, 1877.

If the sections of honey are put into market at once, as they should be, in our opinion, there will be no need of any fumigation with sulphur; and if the unfinished ones are left on the hives until frosty weather, no moths will ever hatch in them. Perhaps the cellaring will answer; but I never again wish to see our bees kept in-doors when the weather will permit them to fly; and in fact I never mean to move them from their summer stands at all, if I can help it. As a remedy for visiting cider mills, enclose them with cheap cloth curtains, as given in Vol. II, page 114.

The season has not been so good here as we anticipated. Cool nights and much rain checked the flow of honey. Our bees have gathered just a living since the 20th of July. Buckwheat is now in blossom but yields no honey. Our bees are getting honey though, and we find it is honey dew from a portion of the forest near us. Can discover no aphides and bees commence work at 4 o'clock in morning. What is your experience with honey dew for wintering? Is it safe to winter bees on it? It seems to be of good body and light color. J. H. Martin.
Hartford, N. Y., August 15th, 1877.

We have never had enough of the honey dew to give it a test for wintering, but have had reports of its having done nicely; see page 62, Vol. I. If the honey is nicely sealed, and the bees are in close warm quarters—surrounded with chaff cushions—we should have no fear of the honey dew.

All of your publications about "chaff" only chafe me, half to death. If your industrious, inquisitive and persevering bee raisers can make money up in their frigid zone, in spite of all the drawbacks which beset them, what colossal fortunes must be waiting for them here, where flowers blossom the year round, and the busy hum of the little bee is never hushed. No winter packing, no cellar removals, nothing but to let them alone, when it is cold. If your energetic farmers would come down here now, and work half as hard as they do up there, their fortunes would soon be made. The day of foreign rule, of bastard thieving and riotous governments, is at an end, and honest working men will meet with welcome.
E. Gourier, Plaquemine, La., June 6th, 1877.

Beg pardon friend G., but as we need chaff in the summer to get the best results in comb honey, we rather think chaff would be a fine thing for you, even in the South.

"RAW" HONEY, WHAT CAN BE DONE WITH IT.

I have some basswood honey which I was obliged to extract long before it was ripe, and I am afraid it will sour. I would like to know what to do with it.
Henry Tench, Pottageville, Ont., Can., Aug. 1.

You can ripen your honey by setting it in shallow dishes in the oven, until it is of the proper consistency, but it will be pretty sure to spoil both color and flavor. The bees can do this work better than anyone else, and I think I should feed it back to them, and let them fix it. They will make it clean, pure, and nice, even after it has commenced to sour.

My bees are now working on red clover. I, too, can see an improvement in my stock since purchasing a colony from Mr. Dadant three years ago. I have bought daughters of imported queens every year since. I have increased the present season from 40 to 80 stocks, and secured 1,000 lbs. of honey, one-half of which is comb honey, and more is ready to remove. Linden has been a failure here. Weather dry at present. F. A. SNELL.

Milledgeville, Illinois. August 8, 1877.

Do not your bees glue those small sections together and to the frame, so as to make it very difficult to get them out? If there is the least space left, mine will fill it, and if there is not they will stick them. Again, do they not quite often fasten them to the separators, building out little studs as if they thought they needed a support? G. H. SPRAGUE.

Neil's Creek, August 11, 1877.

During the season of clover and linden, we scarcely find a bit of propolis, but after the season has closed, or during the fall honey, bees make the honey look untidy by its use, but we never have any difficulty in getting the sections out of the frames. In fact, they come out much easier when filled with honey than when empty. This may seem a little singular, until you have once tried it.

The sheets of fdn. and the small size of the sections, effectually prevent the "buttons" you mention.

I enclose you a letter I received from N. C. Mitchell to-day. I enclose it that you may know the *modus operandi* he takes to reach bee men with his unsolicited epistles. I also send you my answer, which you will please mail from Medina, that he may know I am a Root convert. Bees have done but poorly here this season; have taken up to date, but 500 lbs. from 42 colonies. ALEX. WILDER.

Sandwich, Ill., August 4, 1877.

Indianapolis, Ind., August 1, 1877.

Postmaster—Dear Sir: I am very anxious to put one copy of the Bee-Keepers' Directory into the hands of every one who has one or more stands of bees. You will do me a great favor by writing the names of all such on the enclosed postal card and returning it to me. Yours truly, N. C. MITCHELL.
per N. BARRETT.

Please send me August No. of GLEANINGS; can't be without it. Have borrowed of my neighbors but guess they are tired of it; so am I. Will become a subscriber as soon as I can get the stamps. Have just started in bees this spring. I love a bee if he *does bite* occasionally. I fully agree that they are crosser at the present time than when they are busy gathering their sweet stores. Mine are on a "strike."

E. BRIGHT, Kalamazoo, Mich.

The nucleus came to hand to-day in excellent condition; not more than a half dozen bees dead, and eggs that had been laid during journey. Please accept thanks for your prompt attention.

W. W. REYNOLDS, Cassopolis, Mich., August 2d.

There! I thought we could ship bees safely, even during the hottest summer weather, if we kept on trying. We have had our share of trouble in the matter I assure you, but before I write an article for the A B C on shipping bees, I wish to have considerable practical experience, and that too under all kinds of difficulties that may be expected in the business.

MOVING BEES SHORT DISTANCES, ETC.

In one of the spring numbers of GLEANINGS there was something in regard to moving bees. I will give you my experience in that matter. About the middle of June I found it necessary to move my bees (22 colonies) about 15 rods. They could not be moved gradually as they had to be taken across the highway; so I shut them up just before daylight and moved them as quickly as possible to the place prepared for them, leaving one hive which was queenless, having swarmed three or four days before. As soon as all were in their new location, and while still disturbed from being moved, I let them out. As they boiled out of the hives they of course saw the change, and most of them took their new position. Those that did not, went to the hive left, and as they made rather a large colony I divided them, furnishing queen cells to each colony. Two or three days after I moved one of them the same way, and finally carried the remaining one away about two miles, bringing it back to its proper place a few days later. Thus all were moved, and not a hundred bees lost.

In July No., page 180, Doolittle in an article on keeping pure stock says "drone comb should be carefully excluded from hybrid or black stocks." Are not first cross hybrids (that is, those having queens reared from pure stock but mated with black drones) as good as any for rearing drones?

J. P. SWARTHOUT.

Crystal Springs, N. Y., August 8, 1877.

All dollar queens are supposed to produce pure Italian drones, no matter whether the workers are pure or not, and those who have doubts in regard to the matter had better send for the Dzierzon theory, now published in the form of a neat little pamphlet.

Do you think one time in a season better than another to move bees a short distance,—say ten or fifteen rods?

A. N. GRISWOLD, Naugatuck, Conn., June 27, 1877.

Most assuredly it makes a difference, for if you move your bees short distances in the working season, you are pretty sure to lose heavily, whereas if they are moved quietly during the winter time, or during weather so cool that they will not fly for a week or two, you can avoid loss entirely.

My hybrids beat the nation at swarming, but don't work in boxes on top of hives worth a cent; would they do any better in sections inside the hive?

J. A. ROBINSON, Battle Creek, Mich., July 16, 1877.

Most certainly, for you can make them go to work in a frame of sections, as easily as in one of the brood combs. Put a frame of sections in the lower story, or raise a frame of brood into the upper story; either plan will make a sure thing of it.

My bees are doing tolerably fair; from 13 stands I have increased to 34, and have taken 500 lbs. of extracted honey, yet this has been a very poor season for honey and swarms, as we have had so much rain; at least, so my old fashioned bee-keeping neighbors say. They have had very few swarms and no surplus honey, yet they will not take a Bee Journal nor buy a frame hive. P. A. RIEGLE.

Arlington, Ohio, Aug. 3d, 1877.

My bees are roaring on basswood bloom; we have a very heavy bloom this year, the little fellows come in loaded so heavily that they fairly tumble into the entrance. Enclosed find $5 for comb fdn. Send by express, mail, or by lightning express would suit best, as I am almost dying for it. My Italians fairly dance when I set fdn. into the hive for them.

FLOYD PALMER, Hubbardston, Mich.

Inform me if you deem it practicable for me to buy honey in the comb, trim it to fit section boxes securely, and after it has ceased dripping, get the bees to fasten it in, and seal it up, in proper shape for market? I can buy excellent comb honey in this vicinity at 12 cts. W. G. PHELP, Milford, Del., Aug. 4, '77.

We have tried the plan you mention, but the great difficulty is in getting comb honey of a regular thickness, to produce nice looking honey. Even if you should succeed in this, you will find it a slow and dauby business, and will likely conclude it is cheaper to let the bees do it right in the first place, than to have so much honey running about. Besides unless the sections are given the bees while gathering honey, they will uncap and remove it more or less.

The crop of honey from white clover was large this year. I have many stocks that made 80 and 90 lbs. of box honey. E. OSBURN.

Van Buren, Iowa, Aug. 4th, 1877.

BUTTON BUSH.

I enclose flower and leaf of a shrub, found in this vicinity, growing in marshy places. It blooms early in July, lasts two or three weeks, blossoms are white, very fragrant, and engage the attention of bees more fully than basswood in full bloom only a few rods distant. Not knowing the name of the plant or its value as a honey producer, I send you this sample.
J. B. HAINS, Bedford, O., July 19, 1877.

The plant is the *Cephalanthus Occidentalis*, or Button Bush. It blooms same time as our Lindens, and is visited freely by bees. A. J. COOK.
Lansing, Mich., July 26, 1877.

I am using Gould's Common Sense hive; the frames are 9½x10½. I have about 60 colonies at work, but do not succeed well in extracting the honey; the combs break badly. Have paid Gillispie $10 for a farm right. Has he any patent right on a double section or movable frame hive? WOODWARD & WILLIFORD.
Sylvan, Tus. Co., Ala., July 23, 1877.

Gillispie is a most notorious swindler, as you will see by consulting our back Nos., and the $10 you have paid him is but a small part of your loss, if you have really put bees into hives with frames as small as the size you mention.

SUMAC.

Fdn. works to a charm; we had only 10 days of honey yield while the sumac was in bloom. June 15th to 25th. No swarms. Have divided only 2. All but the very strong stands getting less honey than they consume, yet we still hope for a big yield of honey. ABNER ALLEN, St. George, Kas., July 23.

My method of INTRODUCING QUEENS is to take out all the combs, start the honey running pretty freely, drop my queen into the hive, shake off a majority of the bees in front of the hive, put back the combs and the job is done. I have never lost a queen in that way, and have tried it some 20 times. I told one of my neighbors who has kept bees 7 or 8 years, and he says he has never lost one in that way. I have taken away 4 laying queens this summer and introduced virgin queens in 10 minutes, without loss; I smoke them a little when the frames are all back.

I (being but a very young Novice in bee-keeping) wish *you* would try the experiment, and if good for anything give it to the public. If it will work with a good strong nucleus it will work anywhere.
W. P. DARRON, Jefferson, Mich., July 12, 1877.

Disturbing the bees, and causing them to fill themselves with honey, will usually make them peaceable to a queen, but not always. Your success only verifies what we stated last month, that queens would be received all right without any introducing, in a majority of cases.

The following illustrates so well the troubles and trials of both purchasers and producers in the bee business, and is so extremely lifelike, especially in the success that crowned the efforts of both at last, that we give it entire.

I sent to Parker, of Goldsboro, N. C., for a queen; the cage came through with some bees in it but no queen. I sent the cage back to him just as I received it, stating the case to him and he sent me another queen by return mail. She was a beauty, clean and bright. I took the black queen out, hung the cage containing the queen in the hive over night, took out one comb of honey and turned her loose on it; she made some kind of a squeaking noise and every bee on the rack fluttered its wings and ran around as fast as it could. She crawled down among them, when they began to sting her. I caught hold of her, and one of them stung me on the finger. I think they would have killed her in a few minutes if I had left them alone; I put her back in the cage and left it in the hive twenty-four hours longer, when I took the cage out, closed the hive, and turned her loose in the mouth of the hive. She crawled in all right, and the third day I found her all right and laying eggs. I have sent to Parker for one more; if they prove pure he will get several orders from me. W. G. CRAIG.
Clearmont, Mo., July 25, 1877.

Does it make any difference whether frames run from side to side or from front to rear? Has Mr. Mitchell a patent hive? He sold some in our county and gave instructions by which a great many bees have been killed during these last two years. The queens which I got from Mr. Hale of Wirt C. H., W. Va., are all pure I think; he sells what you want and is fair in dealing; would recommend him to others who want early queens. VAL. D. URICH.
Myerstown, Pa., March 20, 1877.

I cannot discover that it makes any difference at all, which way the frames run, and I have carefully examined the workings of hives of both kinds. Mitchell has a knack of taking people's money without rendering any fair equivalent, but I had not before heard that his teachings resulted in the death of the bees.

Our bees have done well. We have 10 bbls. that hold over 40 gals. each, and another bbl. full yet in the hives, all nice white clover honey. We extracted from 58 hives. J. L. WOLFENDON.
Adams, Wis., July 24, 1877.

Last year my bees did no good at all, but now they are giving me all I can do to keep the honey out of their way. I have never seen new honey so thick. It is with difficulty that we can extract it at all. It is gathered from honey dew, which is more abundant than I have ever seen it. Why is the honey so thick, or is it common when gathered from this source?

I have about 100 colonies, most of them Italians and hybrids. Am pretty well satisfied that the half breeds are the best honey gatherers. W. F. LEWIS.
Baldwyn, Miss., May 31, 1877.

The extractor which you shipped me on the 10th inst. came to hand all right, two days later. It worked like a charm, and I am much pleased with it. I have 7 swarms of bees. Linden has just commenced blossoming, and I have extracted as follows:

July 13th	60 lbs.
" 17th	35 "
" 18th	50 "
Total	145 "

More than twice enough to pay for the extractor. Enclosed please find $1; 25c. is due you on the extractor, and 75c. is to induce the "machine" that mails GLEANINGS to remember me once a month the balance of the year. W. Z. HUTCHINSON.
Rogersville, Mich., July 19, 1877.

I lost 5 hives out of 16 of black bees last winter, but none of 17 hives of Italians. I don't refer this to any hardiness of the latter but to their greater fertility. I think I have the best stock of Italians in America. I have taken over 1,200 lbs. of white clover honey this year, and have had 14 swarms of Italians, but not one of blacks. Some of my neighbors lost half their black bees. J. H. ONEY.
Dixon's Springs, Tenn., June 16, 1877.

I hope to have a favorable report to make this fall. Last fall I had increased from 12 to 31, and got a little over six hundred lbs. of honey, mostly comb. I experimented with some by using sections without any honey board, and succeeded so well that I shall do away with honey boards altogether, although I was using one but ¼ of an inch thick, with 4 2-inch holes in it. H. A. PALMER, Madora, Ia., April 4, 1877.

Honey boards are so much a thing of the past, that I believe they are scarcely known now, in our modern apiaries.

And now, friend Novice, I come with my discovery. Sometimes, after we have hived bees, they take a notion to leave us the empty hive. Now, say we are within 50 yards of the hive when they commence to come out, all that is to be done is to throw a cloth over the hive or stop it up, and the bees are saved. One-half of the swarm may be out, but it confuses them so that they seem to become bewildered, and settle as when first swarmed. I told one of my bee-keeping friends about it, and he says he has saved some bees by it; in fact, has not lost any since. I have failed in one or two instances in saving all the bees when I was late getting to the hive, but never have lost a whole colony since I commenced the practice, and this is the second season. A. T. DOYLE.
Darksville, Mo., July 3, 1877.

I never handled bees until this summer, but I like it very much. At first I was very much afraid of them, put a bee hat on, and was in lots of trouble. The first swarm I divided. I put in a new hive, three frames of which I had filled with comb, but being inexperienced, did not know how to fasten it securely, and when ready to take off the sticks I found the comb in one frame rolled up in the bottom of the hive. I concluded I might as well begin then as any other time, so I gave the bees a few puffs of smoke and commenced. They had fastened the comb in two of the frames all right. I took the sticks off and put them back, but when ready to take out the comb, I could not see very well, and so took off my bee hat, forgetting to put on anything else. I straightened the comb on a cloth, and fixed it all right in the frame this time, with the bees on my hands and face. I thought once of pinching one to see if they had anything to sting with. My wife says she thinks I give them rather too much attention; getting up in the morning to see if they have all gone to work, and looking, the last thing at night, to see that they have all returned safely, and she wants to know whether I have them all named. They all like honey. I found a small swarm hanging over the walk, on the 1st of July. I hived them, and put in a board, giving them only 5 frames. Did I do right? E. B. BLACKMAN.
Hudson, O., August 1, 1877.

Quite right.

COVERS OF CALICO FOR HIVES.

Have you ever used muslin or calico for covering bee hives? I use it and think there is nothing to equal it. I stretch old muslin over the top and tack it along the edges, then put on two or three coats of paint and 'tis done and will last for years. It should not be drawn too tightly, as in shrinking it is liable to crack. There is nothing better for flat tops, as it *can't* leak. R. NICKERSON.
New Canaan, Conn., Aug. 6th, 1877.

Our objections to such would be that they are easily injured. A *good* board cover never leaks, and it requires only the same painting as does the calico. A board is strong, simple, and neat, and you must have a board, even if you do use the calico.

WHY MRS. S. A. PHILP'S BEES SMOTHERED. SEE PAGE 179.

It is probable that when Mrs. P. closed the entrance of the hive to prevent the bees coming out, they crowded the entrance so as to exclude all air; and this in a hot day would soon smother a strong swarm. Had she raised the hive immediately after opening it she would probably have saved a part, at least, of the bees. The writer once experimented with a refractory swarm to prevent their leaving, by raising the front of the hive just enough for a worker bee to pass but not enough for a queen. Out came the swarm and circled in the air, but the queen remained, and the bees returning soon, went to work all right. Well, I had "struck ile" sure, and a few days later, having another swarm bound to leave for the woods, I repeated the experiment. The weather was very warm and, it being a large swarm, some began to smother and drop down closing the entrance; and on looking to them shortly after, I found them all smothered. Well, that swarm didn't leave for the woods, but it exploded that theory.
J. A. ROBINSON, Battle Creek, Mich.

Is it the difference in climate that makes it necessary for bee raisers at the North to give so much attention to their bees? I seldom look into my bees from one extracting time to another; all winter they stand in the garden without any attention whatever, (I have just now come in through the garden, stopping as I passed to pull the weeds from 2 or 3 hives, so as to let the bees in and out), and yet they flourish and I do not think of moths since I have Italians. In extracting I pay no attention to brood, and comb fdn. would be useless to me, as my bees will take an empty hive in a good season and fill it full of comb and honey in 2 weeks. J. H. ONEY.
Dixon's Springs, Tenn., July 25, 1877.

Now, my friend, if you are satisfied with having a new swarm fill their hive in *two weeks*, you certainly are *easily* satisfied, for with the fdn. we can have a colony ready for the upper story in about *three days*, with a fair yield.

COLONIES THAT WON'T BE QUEENED.

I have been keeping bees for three years to no purpose. First trying one man's plan and then another's until I have become disgusted with bees, my advisers, and finally with myself. A swarm came out on the 23d of May last; it swarmed again in a short time, then again in July, and the whole lot now is not equal to one GOOD colony. The first swarm that came out, swarmed again about this time in July leaving *it* queenless. I have given it a frame containing eggs and brood from other hives every two weeks and no queen yet. I gave it a queen cell at one time and that was soon destroyed by the bees. I have enquired from the knowing ones about here and all the consolation I get is "you should take GLEANINGS." So here goes for one dollar in GLEANINGS. Send me what you think is best, past, present or future Vol's, to give me a start in the right direction, and if I can learn anything to my advantage you may consider me a constant subscriber.
J. G. RICE, Peosta, Iowa, Aug. 6th, 1877.

Our excellent friend Townley, the "chaff" man, has just paid us a visit, and several of us called on a neighbor who is new in the business, but very successful in raising queens, and when there, he said he was finally going to confess that he had a colony he had been trying to "queen" nearly all summer, but they would neither build cells, nor accept a cell, or queen. I told him they had a queen with bad wings, but he declared they had not, for he had looked them over, and if there was any sort of a queen, he certainly should have seen her. The hive was soon open, and in a twinkling each had a comb, and these were handed about, until all seemed satisfied, that no queen existed in the hive. This was somewhat puzzling, for the bees behaved precisely as if they had a queen, and I began to watch their movements, to see if they would not indicate by their manner, where or what the queen was. At length I saw them extending their antennæ to what appeared to be a rather dark slender bee, and soon was satisfied she was the cause of the whole trouble. She was in fact one of those worker queens—see page 205—and to prove to my companions that she was held as a queen, I tried in vain to make her protrude her sting as I held her by the wings; and afterward held her above the bees to show how they would all gather around her. You will have to be guided in finding such queens almost entirely, by the movements of the bees. No matter how weak your bees were, if they had laying queens, you should have had no difficulty at all, in building them up strong.

In the spring of last year, I paid Mitchell's agent at Holland, Mich., 10 miles east from this place,, $1.25 for the "Directory," back numbers included. About midsummer I received the April number, which is all I have seen. I also paid $8 for the "Adjustable Bee Hive and Farm Right," for which my only receipt is a *tin check*. I wrote Mr. Mitchell concerning these things, but without receiving a reply. I thereupon wrote to a friend of mine at Indianapolis, a student at the Medical Institute, requesting him to go and see Mr. Mitchell. His reply was as follows: "Mr. N. C. Mitchell is not in his office, and appears not to be in the city. I have however spoken to one of his acquaintances, who will see him as early as possible about these things. As soon as I shall have received information, I will let you know." Up to this moment no information has come to hand. Neither does Mr. Mitchell reply to his agent at Holland. By means of GLEANINGS I supposed there might be some chance of hearing something from him. J. ELSMA.
Vriesland, Mich., March 28, 1877.

We have had a good flow from basswood and clover; since basswood have nearly starved. This morning buckwheat begins to come. Have taken 100 lbs. from some colonies. J. J. SWARTWOUT.
Union City, Mich., Aug. 7th, 1877.

Our Homes.

Do good and lend, hoping for nothing again.—Luke, 6; 35.

THE above may sound like rather novel advice to be given for the purpose of making money, but I do verily believe it would, if fully carried out in the true spirit in which our Savior uttered it, prove one of the most efficient modes of money making that has ever been devised; and many are the men of great wealth who have all their lives been in the habit of giving generously, whenever they saw an occasion where money would do the recipient good, and not harm. Perhaps little has been known about it, because they gave for the express purpose of doing good, and not that the deed might be heralded abroad. It pains me to hear hard things said about those who get large wages; that they get it by dishonest means, that their employers pay them so much because they will not scruple to use falsehood, etc. I believe it is a rule that will hold good almost invariably, that where an employee tells falsehoods for his master, he will very soon tell them to his master; and I can scarcely imagine an employer that would prefer a hand who he knew would tell falsehoods for expediency. Everybody loves truth; I do not know of a single exception, and yet why, O why, are *we all* so untruthful?

On page 108 I spoke of a Bible class that I had started in the jail. For some time the boys seemed to be rather annoyed than otherwise, and I many times seriously questioned whether it were well to keep on after my humble fashion. Bye and bye, the three prisoners succeeded in removing a stone from the jail and escaped. They were captured however, and brought back just in time to avoid missing a single Sabbath Bible class, and I meditated quite a little in regard to what was my duty in the matter; should I say anything to them about their adventure of the week? I finally decided to say nothing, but to go on with my work precisely as if nothing had happened, only I took particular pains to draw from the lesson a strong moral on the importance, beauty and safety of bowing humbly to circumstances as we find them, and of obeying the laws of God, and the laws of our land. About that time one of them, the ringleader in the jail breaking and the only one who would probably have to go to the State prison, seemed to soften somewhat. I finally found him willing to talk, and willing to speak of his former life, but he continually insisted that the fault was in some one else, and not in himself, all through his checkered life. He had been wronged, first by one and then by another, so he said, and the provocation was so great that he thought he was excusable, nay, he even thought he would do the same thing again, under like circumstances. I read to him about rendering good for evil, and going back over his history, asked him what he supposed would have been the result, had he consented to being imposed upon, as he stated it, and to having his rights trampled on now and then for the sake of peace. I tried to tell him of the beauty of the life of a peacemaker, and of the glorious victory that can be achieved by heaping coals of fire on the heads of those who despitefully use us. He admired bravery and daring, and I lent him the history of Moody's early work in Chicago. Strangely enough, he had heard Moody while in Chicago, and little by little, he began to lose his hold on old things. It was a happy day for me, I assure you, when he consented to plead guilty, and go to the penitentiary again—he had served out one term before—if the laws of our land made it right that he should. Then his eyes began to open, and he saw how he had all his life wronged innocent people, saw that the world he had all along called hard and unfeeling, had used him far better than he deserved, and with an entire new purpose in life, he declared that should God see fit to restore him to liberty, he would try to make amends for his past misdeeds.

At his trial, instead of trying to make himself out an innocent man, he plead guilty, and was sentenced to 60 days imprisonment only. During the 60 days his Bible was his constant companion. He is now at liberty, and has been in my employ for the past two weeks, is a most excellent hand, goes to our mission Sabbath schools on Sunday, and to our young people's prayer meeting during the week, and bids fair to be an entirely new man. His old companions are left entirely, and his evenings are spent at home with friends who are most deeply anxious that he should continue in the new path in which he has started.

Now I will tell you why I have mentioned this much of him. When he told me freely of his old life, I asked him to tell me if he could, when and where he first did that which he knew to be wrong. It was in using a pair of scales that he knew weighed falsely. The first time he did this, he said he felt so badly about it that he did not get over it for many days. I need not tell you that this cheating in weighing was done solely for the purpose of getting more money, or rather for getting money faster. Did he really get more money in the end? Pretty soon he could cheat without feeling troubled at all about taking the hard earnings of the poor innocent women who sold him their poultry. Did you ever try to raise chickens to sell, my friend? If you are a woman, and have many household cares to weary and exhaust your strength, you can fully understand how these sisters of yours toiled for the hard earned pennies that two strong men unfeelingly appropriated by false weights. Chickens die and get lost as well as queens, and you who know so well about the vexations and trials of selling queens for a dollar, perhaps had better try getting dollars by the chickens, if you would get a fair view of the injustice my friend was addicted to. Just contemplate how far he had strayed from the sentiment conveyed in the little text, "Do good and lend, hoping for nothing again." Does that leave any chance for selfishness? Suppose these two had traveled about the country with the purpose of doing all the good they could as their first and primary object, and making the getting of money secondary; which plan would have been most profitable? Do you not guess how their business turned out? In a very short time they traveled only in the night time, and did not pay for their load of produce at all; and bye and bye they cheated their friend in the city, who took their ill gotten gains off their hands, and then a quarrel came on, and the iron arm of the law restored peace and tranquillity. Liberty, that great blessing that comes direct from the Father Himself, was taken away, and long weary days of bondage paid the debt. Did he not have time to meditate, and to see that honesty is the best policy? Yes, he had time, but I fear that instead of being sorry that he did evil, he was only sorry that he got caught, and when restored once more to liberty, he was soon among old companions. "Lead us not into temptation, but deliver us from evil." Does the world half realize the meaning of the prayer that so often passes their lips?

Everybody is ready to admit that selfishness is unprofitable, when carried to too great an extreme, but how many are there who have the courage to boldly cast their bread on the waters in the way our Lord has commanded us to do? It is very easy to talk about it, and to make good resolutions, but when you are annoyed very much by having your tools borrowed and not returned, it is a pretty hard matter to obey the injunction to "Lend, hoping for nothing again." Sometimes there seems no other way than to get off by one's self, where we can tell that Heavenly Parent all about it, just as a tired child would come home to its mother, just to tell of all its grievances and troubles. How it raises us up, and how everything clears away after such fortifying. "Yes, I can keep lending them things, and I am glad to be able to help them; I have so much to be thankful for, and they seem to have so little. It is true, it is all or nearly all their own fault, but if they have no faculty for getting along, I presume it is my duty to help them," and we are all cheerful and pleasant again.

It is so natural to be selfish, and so unnatural to be looking out for the good of other people, that it were strange if poor humanity unaided, should ever make much progress in the direction pointed out by the text.

This season the water tank at our door has had an unusual amount of patronage. So much so, that I began to fear the expense of ice and attendance was rather more than I could afford to stand. To add to this, the boys have seemed more rough with it than usual, and it has several times been broken down, bruised and misused in various ways, until it almost seemed as if forbearance ceased to be a virtue. They also waste a great deal of the water, when it costs us so much time and trouble. What pains me more than all, is, that they will persist in swearing, while gathered around the tank awaiting their turn, until it almost seems as if it, by some strange freak, provokes oaths and curses. Over and over again have I, almost in anger, declared (mentally) I would furnish water no longer for such an ill-mannered and ungrateful set, but soon after the sight of some wearied child or woman, as they timidly asked if the water was free to all, made me ashamed of myself, and I thanked God for giving me the opportunity and means of helping poor tired humanity, to even so much as a cup of cold water. As I write, the cups are jingling, and those who go away look refreshed and thankful, even if they do not say so. God knows all our trials, and the pay that He sends in the way of peace and thankfulness, is worth more than all the silver and gold that was ever coined. I finally made up my mind to bear the expense for the season alone, if necessary, and to cultivate that broad charity and patience that is needed in all Christian work, as well as I could in my own humble way, when right in the hottest part of the weather, our townsmen seemed to remember, all at once as it were, that something more than kind words was needed, and when the words came along with a shining half dollar, I almost had to turn my head to keep away the tears; tears of joy to think my Heavenly Father had remembered me after all, and of shame to think I had had such unkind and unjust thoughts of my own fellow townsman. Aye, and the prayers for those who would persist in taking God's name in vain, are being answered too, as I purpose telling you about in another chapter.

Now please do not understand that I expect you to get rich by supplying your fellow townsmen with ice water, for I have no idea that you will get money enough to pay for much more than the ice used, to say nothing of the care and trouble; but I do expect that such an institution in every town would do so much good, that it would open the hearts of all, in time, and most especially of the one who bears the responsibility of the whole institution. The morals of the town will be improved, and very soon, as a natural consequence, the prosperity; and the one who has shaken off the old Adam of selfishness enough to take delight in laboring for the good of the community, will, if he is enterprising and industrious, "make money," if he wishes to, and I think he will make a great deal more than he can possibly, by grasping all he can from all sides, for his own individual use. God does not see fit to pay us all right down in cash every Saturday night, but he, nevertheless, does pay more surely than any earthly employer.

While I would earnestly recommend giving freely where we have reason to think good may come of so doing, I would in no wise encourage a disposition to be lavish and loose in disposing of one's property. Giving carelessly, or injudiciously, or being slack in taking care of your property, is almost if not quite as grievous a fault as selfishness. If a neighbor has borrowed your tools and does not bring them back, do not abuse him behind his back, nor yet to his face, but tell him plainly how much trouble his negligence has caused, and do it all with that genial good nature that never offends. Get him to assent to the idea in the abstract, and instead of applying the matter to your own individual case, make him understand that it is for the good of the neighborhood. Teach your children, your hired men, your friends and relatives and all about you, the importance of respecting the rights of others, and of holding a borrowed tool as something sacred. If a tool gets ruined, do not, for the good of your neighbors, if nothing else, let the matter drop, but allow him to make it good as best he can, or even tell him his duty in the matter if you can do it and still be friends. Be friends anyway, whatever it may cost; you can really "fight" for your property in a friendly way, if it must be done, and you can save ever so much more by the power of kindness than you can by hard words or "clubs." I confess I am very far from being equal to all emergencies of this kind, but now and then I get a view of the clear blue sky, of a frame of mind "away up high," where we can do and say all that needs to be done in this world of ours, with not only a pleasant look, but with a kindly feeling in our hearts for *everybody*. May the kind Father lead us all up higher, and help us to forgive the debts of others, as we would have our own forgiven.

Honey Column.

OUR bees have done well on clover; we have 12 bbls. full, each holding 40 or more gallons, which we are anxious to sell. I always consider your "Honey Column" the most valuable part of GLEANINGS as it tells us where we can sell our honey.
J. L. WOLFENDON, Adams, Wis., Aug. 7.

We kept up the honey column as long as anybody would tell how much honey they had for sale, and what price they wanted for it. Even you have neglected to say what price you are willing to take for your 2½ tons of honey.

WINTER ENTRANCES, STRETCHING OF FDN., SHIPPING AND SELLING HONEY, &c.

IN March No., in an article headed "Our own apiary," you say, "Perhaps a half dozen of our L. hives were left with no entrance blocks, and every one of these showed an unusual quantity of dead bees; we are well satisfied that the entrances should be closed up small, tight and warm, for winter, and would favor a single auger hole, a little above the bottom board." Now, how large an auger hole would you recommend? Prof. A. J. Cook says a strong colony of bees need nearly as much air in winter as in summer. If the hole is too small, would there not be danger of suffocation?

You recommend sheets of fdn. to be cut so as to allow ¼ inch space at the sides and ¾ at bottom. I received 7 sheets of you cut "thusly," the bees have worked them out and most of them are filled with brood, but all are as pendent as a clock pendulum, being attached nowhere but at top. They have, however, lengthened so that they nearly touch bottom bar, but the space at each side is now ½ inch or more. It would seem that what the sheet gained in depth it lost in width. I would think from this, that the sheet ought very nearly to fill the frame in width.

In August No. you refer to shipping crates for box honey, but do not say who will furnish them, nor give cost of them. You can probably make them cheaper and better than many of your readers, so let us know about it. Do you have the cases returned when empty? Do the section boxes sell at gross weight or must the weight of each section be known and deducted when selling?

What is a tin separator as you use it? Is it a piece of tin set edgewise between each frame of sections? If so, it seems to me that this arrangement would isolate the bees too much for rapid work.
D. B. BAKER, Rollersville, O., Aug. 6th, 1877.

If the entrance for summer is large, I would not have the auger hole over ¾ inch for a winter entrance. Friend Cook was speaking of ventilation for bees in-doors, when he said they needed nearly as much in winter as in summer, if I mistake not. He has given the result elsewhere, of an experiment in which a colony out-doors had the entrance sealed up air tight, by ice, yet they did not suffer. If you have a porous covering over the cluster, such as chaff or even a cloth quilt, you may close the entrance as tightly as you wish in cold weather. Bees very seldom, if ever, smother when wintered out doors, but they often suffer from having the dampness from their breath freeze around or on them.

Your sheets of fdn. behaved thus, probably, because the wax was of hard and firm texture. Where cut as you mention, it, in a majority of cases, just touches the sides and bottom bar when finished, and your bees will eventually fill it out at the ends if we are not mistaken. In deciding on the size for the sheets, we have preferred to have them hang as a pendulum, rather than have them touch and bulge.

I carelessly omitted to say in my description of the honey case, that we could furnish them, glass, paint and all, for 50c each. The express companies return the cases without charge to the shipper, so that there is no necessity for keeping a large number of them on hand. Of course the section box is sold with the honey; no one ever objects to the very thin light pine pieces of which they are made. An engraving of the tin separators and the way in which they are used, was given in our April supplement. We see little, if any, difference in the yield of honey, whether the separators are used or not, and I have given the matter a pretty thorough test, both this year and last. If you wish to get a high price for your honey, do not think of omitting the separators.

IMPORTING QUEENS FROM ITALY.

WHAT THEY COST, HOW THEY LOOK, AND ALL ABOUT 'EM.

ON the 6th of June we sent $32.50 to D. Tremontani, and just 60 days afterward received 15 queens, 14 of which were alive. The express charges on them was $24.55. You will see that the queens cost us in Italy about $2.16, from which it seems that Tremontani charges more for dollar queens than we do. If we understand the matter, these queens are simply young queens that have just commenced to lay, without any regard to stock. We would by no means find fault with our friend Tremontani, for it must be remembered that he has to prepare and guarantee safe delivery of them all, across the ocean. Ours were very carefully packed, with three little frames of old thick honey; in fact they had honey enough to last them around the world; but for all this, many of the bees were dead, and several of the hives contained not a single live bee except the queen. The entire expense of shipping was $1.64 each, so the queens cost about $3.80. If we count out the one dead one we may safely say $4.00, and I believe ours was a very fortunate shipment.

The queens I think were all young, for they had very good wings, and flew freely as soon as let out of the boxes. Several of them flew while being introduced, and although I had little fear of their not coming back, I assure you it is rather trying to one's feelings, to see queens that cost so much money soaring away up in the blue sky. They all came back finally, although one that flew away late in the evening staid out all night. I presume she lit somewhere to rest, and became so chilled that she did not take wing again until the sun warmed her up next morning. About this time I took to clipping their wings and stopped the fun, but they seem to have a great fancy for flying in the open air, after their long sea voyage.

Well, I introduced the whole 14, besides 6 more that I got of friend Blood, at about the same time, without any loss; did I not do well? It has been said that imported queens were more difficult to introduce than others, but I have not found it so. They were all introduced on the plan given in the A B C; some were let out as soon as received, and were laying next day; others were let out the day after, but some had to be put back several times before the bees would let them "abide in peace."

The one that was gone all night was caged nearly a week, and she was taken out of a cluster of bees perhaps a half dozen times. As she was a very bright, active queen, you can imagine somewhat the expression of my face, when I found her in the nucleus hive next morning. I had been feeling so badly about her loss, that I lay awake in the night, resolving to clip the wing of every queen in the apiary, as soon as they commenced laying, no matter if a few customers did object. By the way, dear reader, do you know how awful bad a body *does* feel after losing a valuable queen? If you feel it has been partly through carelessness it makes it ever so much worse.

Do you wish to know what they are like? Well, they are of all sizes and colors, and just about as different as queens would be if you picked them up at random around home. Some were large and fine looking when received, and some were very small, and looked like queens just before being fertilized. When the workers hatch out I will tell you what *they* are like.

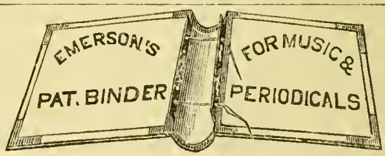
As all the queens I have received from Dadant have been quite dark, I was somewhat astonished to find so many of these quite light, and yet I sent no request for light ones, for I would just as soon have the dark ones myself. If they produce as energetic honey gatherers as those received of friend D., I shall be abundantly satisfied. There was one in the lot received of friend Blood, that is as light as almost any queen I ever saw, and as her workers are even lighter than our albinos, we regard her as quite an acquisition. Her bees are also unusually large, and we have commenced already to rear dollar queens from her. All larvæ sent out hereafter will be from this queen.

Now I suppose most of you are ready to decide that imported queens can be furnished for $5 00; and so they can in fact, without any trouble, if we sell them as friend Blood does, without any guarantee of safe delivery, or anything of the kind. One more point; our neighbor Rice has an imported queen bought of Dadant, that he thinks produces bees rather smaller than usual, and hardly feels satisfied with her. Our neighbor Pratt has one, or rather had, that only laid eggs a couple of weeks, very few at that, and then died. If I sell you these queens and they turn out thus, some of them, shall you stand the loss or shall I? If I must make them all good—prolific, young, nice bees, of good size, and guarantee safe delivery, in short make all satisfactory—I am afraid I should have to have $7 as Dadant does. I know that most of you prefer light colored queens, and some of you "scold" like everything if you get a dark one for a dollar queen. It might be difficult to furnish imported queens having all these good qualities for even $20. After having given the matter some study, I have decided to furnish imported queens just as we do dollar queens, without any guarantee at all, for $5. At this price, all you have to do is to buy another and try again, if the first one should not please you. For $6 I will send you one I have tested in my own apiary, and guarantee safe arrival, fertility, etc. To do this, I shall have to keep quite a number in my apiary the year round. The latter I can ship at once, at any time, except during severe winter weather, but the former only during the importing season.

The Subscriber offers for sale at
Cedar Creek, N. J., the entire APIARY of the late Dr. Kimpton, consisting of
50 Colonies of
PURE ITALIAN BEES!
Also, one Honey Extractor, Honey Pails, Section Boxes, Barrels, &c., &c. Terms cash or approved paper.
MRS. E. KIMPTON,
9 Cedar Creek, N. J.

100
PURE ITALIAN SWARMS
FOR SALE AT $5.00 EACH
for orders of five or more. Single. $6.00. Langstroth hive, size of frame, inside 17x9½. Strong colonies in a perfectly healthy condition, plenty of stores.
9-10 ALBERT POTTER, Eureka, Wis.

Hybrid Queens.
I will mail hybrid queens reared from imported mothers, for 50 cents, safe arrival guaranteed. These will produce pure drones, and the workers as honey gatherers, are nearly, if not quite, equal to any.
A. I. ROOT, Medina, Ohio.



You cannot look over the back No's of GLEANINGS or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said—"Dear me what a bother—I *must* have last month's Journal and it's no where to be found." Put each No. in the Emerson Binder as soon as it comes and you can sit down happy, any time you wish to find any thing you may have previously seen even though it were months ago.
Binders for GLEANINGS (will hold them for four years) gilt lettered, free by mail for 50, 60, and 75c, according to quality. For table of prices of Binders for any Periodical, see Oct. No., Vol. 2. Send in your orders. A. I. ROOT, Medina, O.

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our tenth edition circular found in April No., Vol. V., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required.*

Canada postage on *merchandise* is limited to 8¾ oz., and nothing can be sent for less than 10c.

BEES.

Bees, full colony amply provided for winter, in our new two story, chaff hive (described Nov. and Dec. No's .. '76), tested queen from imported mother, safe arrival guaranteed..(Lawn hive $1 more.)	$15 00
The same in a 1 story Simplicity hive	13 00
The same in old style L. hive with portico, etc.	12 00
The same with hybrid queen	10,00
Not provisioned for winter (hybrids in old hive)	7,00
Two frame nucleus with tested queen	5 50
The same with dollar queen	4 00

For an imported queen in any of the above, add $5.00

We think we can prepare bees for shipping safely any month in the year; when we fail in so doing, we will give due notice.

0	Binder, Emerson's, for GLEANINGS	50, 60, 75
	Balances, spring, for suspended hive (60 lbs)	8,00
10	Blocks, iron, for metal cornered frame making	15

One of the above is given free with every 100 frames, or 1000 corners.

	Barrels for honey, $2,50; waxed and painted	$3,50

Buzz-saw, foot-power, *complete*; circular with cuts free on application. Two saws and two gauges included. $35 00

10	Buzz-saws. extra, 6 in. 1,50; 7 in., 1.75; 8 inch..	2 00
60	Buzz saw mandrel and boxes complete for 6 inch saws	5 00
	The same for 7 and 8 inch saws (not mailable)..	8 00
	Comb Foundation Machines complete....$20 to	100 00
	Comb basket made of tin, holds 5 frames, has hinged cover and pair of handles	1 50
60	Chaff cushions for wintering	30
25	Chaff cushion division boards	20

Half price without the chaff, and postage 5 and 9c.

20	Candy for bees, can be fed at any season, per lb.	17
20	Corners, metal. per hundred	75
20	" " top only	1 00
15	" " bottom, per hundred	50

On 1,000 or more a discount of 10 per cent. will be made, and on 10,000 25 per cent. The latter will be given to those who advertise metal cornered frames.

	Corners. Machinery complete for making	250 00
10	Clasps for transferring, package of 100	25
0	Cards, queen registering. per doz. 6c, per 100...	40
1	Cages, wood and wire cloth, provisioned, see p. 214	05
12	" " " per doz	50
2	Cheese cloth, for strainers, per yard	10
12	Duck, for feeding, and covering the frames—bees do not bite it—per yd. (29 inches wide)	20
	Extractors, according to size of frame $7 50 to	10 00
	" inside and gearing, including honeygate	5 00
	" Hoops to go around the top (per doz. $5.)	50
7	Feeders. 1 q't, tin, can be used without opening the hive, in warm weather—neat and simple	10
25	The same, 6 qts, to be used in upper story...	50
4	Frames With Metal Corners	05
5	" " Sample Rabbet and Clasps....	10
18	Galvanized iron wire for grapevine trellises per lb. (about 100 feet)	20
0	GLEANINGS, Vol's I and II, each 75c., Vol IV	1 00
0	" Vol. III, second-handed	2 00
0	" first four volumes neatly bound	5 00
0	" " " " unbound	4 00
50	Gearing for Extractor with supporting arm..	1 50
25	Gates for Extractors tinned for soldering...	50

SIMPLICITY BEE-HIVE.

One body and 1 cover in the flat, as sample to work from—one sample frame and sheet of duck included 1 00

One story hive for extractor (body 50c—2 covers 60c—nailing and painting 20c—quilt 25c—10 frames 60c—crating 10c) 2 25

One story hive for comb honey is precisely the same as the above, substituting 2 frames of sections for 4 metal cornered frames 2 25

The above 16 sections will be fitted with fdn., and starters ready for the bees, for 15c, and the tin separators added for 10c, making whole complete....... 2 50

The above two hives contain everything used in a 2 story hive. We simply use another body filled with frames or sections, for a 2 story hive.

For a 2 story hive for the extractor, add (to 1 story 2 25) body 50c—nailing and painting 10c—10 frames 60c—crating 5c, making complete 2 story containing 20 frames 3 50

For a 2 story hive for comb honey add (to 1 story 2 25) body 50c—nailing and painting 10c—6 frames of sections 78c—1 metal cornered frame 6c—crating 6c, making complete 2 story containing 7 frames and 64 sections 3 75

If filled with fdn. starters 60c—if also filled with tin separators 40c, making $4 75, if two latter items are wanted.

An upper story filled with sections, fdn. starters and all ready to be set over any L. hive $2,75

To prepare the above hives for winter, put in place of the 2 outside frames chaff cushions, price 20c each, and a thick one on top 30c.

Iron frame to gauge size of above hives, and to hold them true when nailing, size 20¼x16 inside.... 75

	CHAFF HIVE FOR OUT DOOR WINTERING. 10 frames below, and 14 frames or 80 section boxes above, well painted and finished complete ....(Lawn hive $1 more.)	$5 00

If filled with fdn. starters and separators, $1.25 more.

Without frames chaff or paint, as sample to work from 2 50

These hives, if supplied with stores, will, we hope, need no attention whatever, from the time honey ceases until it comes again the next season.

Two frame nucleus hive, neatly painted....... 50

0	Knives, Honey (½ doz. for $5 25, or $5 by Exp.)	1 00
	" " curved point $1.15..per ½ doz	6 25

Labels for honey, in blue and gold, dark bronze and gold, or in white printed in two colors, furnished with your own address, and source from which the honey was gathered, already gummed, post paid by mail. (no order rec'd for less than 250). At these low rates, the full number mentioned *must* be ordered without the change of one single letter of the type........1000, $3,25; 500, $2,40; 250, $1.80

0	Lithograph of the Hexagonal Apiary	25
	Lamp, Nursery for hatching queen cells as built	5 00
0	Larvae, for queen rearing, from June to Sept.	25
15	Microscope, Compound, in Mahogany box...	3 00
0	Prepared objects for above, such as bees' wing, sting, eye, foot, etc., each	25
0	Medley of Bee-Keepers' Photo's, (150 Photo's)	1 00
0	Magnifying Glass, Pocket	50
0	" " Double lens, brass, on 3 feet	1 00
7	Muslin, Indian head, for quilts and cushions per yard, pretty stout, but not good as duck.	10
	Parafine, for waxing barrels, per pound....	20
0	Photo. of House Apiary and Improvements..	25
2	Rabbets, Metal per foot	02

SECTION BOXES IN THE FLAT, PER 1,000.

Any dimensions not exceeding 2x5x5 .... 10 00

The above is 50 cubic inches; for larger sizes add 10c per 1,000 for each additional cubic inch or fraction of an inch, outside measure. Extra prices for less than 500.

Just right to fit in L. frames, 2x4¼x4¼ 9 50

Sample by mail with fdn 5

If the grooving for holding the fdn. is omitted, 25c less per 1,000. Sections weigh from 7 to 10 lbs per 100.

10	L. frame made 2 inches broad to hold 8 sections	5
25	The same with 8 sections	13
25	The same furnished with fdn. starters all ready for the bees	20

Adding tin separators to either of the above will increase the price 5c, and the postage 6c.

6	Section boxes, fancy, hearts, stars, crosses, etc. each	5
5	Sheets of duck to keep the bees from soiling or eating the cushions	10
	Shipping Cases for 48 section frames of honey.	50
	Salicylic acid, for foul brood, per oz...	50
0	Scissors, for clipping queen's wings	40
18	Seed, Alsike Clover, *raised near us*, per lb...	25
18	" Summer Rape. Sow in June and July.	15
0	" Chinese Mustard, per oz	25
18	" Mignonette per lb. (20c. per oz.)	1 50
18	" Mellilot, or Sweet Clover, per lb	60
18	Silver Hull Buckwheat (peck by express, 75c)	10
10	Smoker, Quinby's (to Canada 15c extra)	1 50
5	" Doolittle's	25
25	" Bingham's $1 00, 1 50,	1 75
2	Tacks, Galvanized	10
5	Tins for fastening glass in section boxes, 1000...	25
5	Thermometers	40
0	Veils, Bee, with face of Brussels net. (silk)..	75
0	The same, all of tarletan (almost as good)...	50
	Wax Extractor	3 50
	Copper bottomed boiler for above	1 50
5	Wire Cloth, for Extractors, tinned, per sq. ft.	15
2	" " Queen Cages	12

Above is tinned, and meshes are 5 and 18 to the inch.

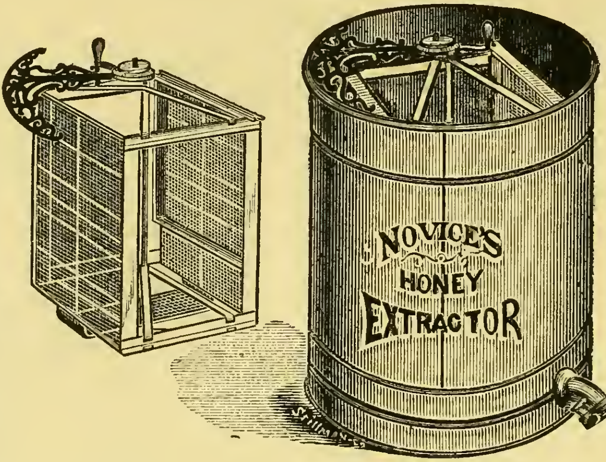
3	Painted wire cloth, 14 mesh to the inch, per square foot	7

All goods delivered on board the cars here at prices named.

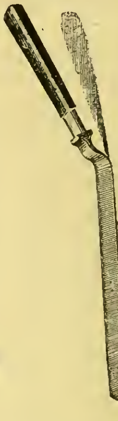
A. I. ROOT, Medina, O.

PRICES OF EXTRACTORS:

For Gallup frame, $7,50; American frame $7,75; Adair frame, $8,00; Langstroth, $8,00; Quinby, $9,00. No knife included at these prices. All the above sizes kept constantly on hand ready to ship. OVER 1000 NOW IN USE.



In ordering be sure to give outside dimensions of frame, and length of top bar.



Our Honey Knife, Price $1,00, post-paid, is made of fine steel, nicely finished, with a thin keen edged blade that needs no hot water or any such "fussing" to make it uncap nicely.

ADVERTISEMENTS.

Advertisements will be received at the rate of 20 cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

FREE! FREE! FREE!

We will send a sample copy of the **Bee-Keeper's Magazine,** *post-paid,* to any person in any way interested in **Bees** or their **Products,** or in the apparatus so successfully used in modern management. Just send your name and address to **A. J. KING & CO.,**
8tf **61 Hudson St., New York.**

Every Bee-keeper should subscribe for it.

The American Bee Journal

Is the best scientific and practical Journal of APICULTURE in the world. The most successful and experienced Apiarians in Europe, as well as America, contribute to its pages. In fact, it is the *oldest* and *largest* BEE PAPER in the English language. **$2.** Per Annum. Send a Stamp for a Sample Copy. Address THOMAS G. NEWMAN,
tf 184 Clark st., Chicago, Ill.

CASH FOR BEES-WAX.

We are paying 30 cents per pound for yellow beeswax, in lots of from 50 to 5,000 or more pounds, delivered at Syracuse, or 31 cents, if exchanged for white wax. If you have any wax on hand, and can deliver it at the above price, please do so, and we will send you our check on receipt of the same.
ECKERMAN & WILL.
8-7 Wax-bleachers, Syracuse. N. Y.

IMPORTED QUEENS AT $5.

We are receiving queens from the best districts in Italy, which we will sell at $5. each.

This price being very near cost no discount can be given on the dozen.

Having ordered queens sent to us every two weeks, we expect to fill orders without delay.

We will deliver at express office here in box as received, or forward by mail, as requested.

No queens raised this season or circular issued.

Registered letter or money order sent at our risk.
C. W. & A. H. K. BLOOD,
8tf P. O. Box 234. Quincy, Mass.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 10c. each insertion, or $1.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c. each insertion, or $2 00 per year.

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, safe delivery, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If wanted by mail, send 10c. extra.

*Wm. W. Cary, Colerain, Franklin Co., Mass.	3-2
*J. Oatman & Co., Dundee, Ill.	1-12
*E. W. Hale, Wirt, C. H., West Va.	6-6
*J. M. C. Taylor, Lewiston, Fred. Co., Md.	1-12
*Dr. J. P. H. Brown, Augusta, Ga.	1-12
*Albert Potter, Eureka, Wis.	1-12
*Wm. J. Andrews, Columbia, Tenn.	2-2
*Aaron J. Weidner, Bigler, Adams Co., Pa.	4-9
*J. H. Nellis, Canajoharie, N. Y.	5-11
Miss A. Davis, Holt, Ingham Co., Mich.	5-4
D. A. Pike, Smithsburg, Wash. Co., Md.	5-6
*W. A. Eddy, Easton, Adams Co., Wis.	6 11
*T. G. McGaw, Monmouth, Warren Co., Ills.	6-9
*E. C. Blakeslee, Medina, Ohio.	6tfd
*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Columbia Co., Pa.	7-6
*J. Shaw & Son, Chatham Center, Medina Co., O.	8tfd
*M. L. Stone, Mallet Creek, Medina Co., O.	8tfd
*J. H. Townley, Tompkins, Mich.	9-10
*J. R. Landes, Albion, Ashland Co., O.	9
*Wm. G. Baker, Norwalk, O.	9

Bees for Sale.

We whose names appear below agree to sell a good colony of Italian bees with tested queen, in new one story hive, for $10,00. If in an old hive, $1,00 less. Safe arrival guaranteed.

A. I. Root, Medina, Ohio.	
J. H. Townley, Tompkins, Mich.	9-10
O. H. Townsend, Hubbardston, Mich.	9-11

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
M. S. West, Pontiac, Mich.	6-5
Geo. W. Simmons, Newark, Del.	1-12
Isaac L. Parker, McMinnville, Warren Co., Tenn	3-2

CLIMBERS FOR BEE HUNTING, $2.50.
A. I. ROOT, Medina, O.

GLEANINGS IN BEE CULTURE

Devoted to Bees and Honey.

And Peace on Earth and Good Will toward Men.

PUBLISHED MONTHLY, AT MEDINA, OHIO,
BY A. I. ROOT.

Vol. V. **October, 1877.** **No. 10.**

To Many Inquiring Friends.

PATENT HIVES—WHAT FRAME OR HIVE TO USE—SHALL WE USE AN EXTRACTOR, OR RAISE COMB HONEY?—ITALIANS—THE BEE MOTH—SPACE FOR COMBS—FOUNDATION.

While I earnestly try to maintain a broad "charity for all, and malice toward none," and while I do not wish to take upon myself the responsibility of dictating a course for others, I feel it a duty to discourage with all my might, both by precept and example, everything in the shape of patented bee hives, or patents on anything pertaining to bee-culture. On the other hand I shall try to encourage every one to do all in their power to advance the common good of all. I do not believe the world "selfish and grasping," but have unlimited confidence in the disposition of our people to desire to pay for everything they get, and to reward those who work for them disinterestedly, when they once get a clear understanding of the matter. If you have made a valuable invention or discovery, give it to the people rejoicing that you have been enabled to contribute your mite to the common good, and in seeing others happy, and sooner or later, you will surely have your reward. *Nothing is patented in the shape of hives or implements, that we advertise.*

I recommend the Langstroth frame for everybody, and for every purpose whatever, in preference to anything else, and I have pretty thoroughly experimented with all shapes and sizes. There may be other forms that will give just as good results, but I do not believe there are any better. For all general purpose, I advise the Simplicity hive holding ten of the above frames. The hive is made of ⅞ lumber, and is 20¼ by 16 inches outside measure. The Langstroth frames as our gauges make them, are 17⅝ by 9⅛ outside measure. As the chaff hive is the same thing with an outer shell to hold the chaff that protects the hive from the winter's frosts, as well as summer's sun, no confusion can result from using both in the same apiary.

Produce just whichever pays best in your own market, and no one can tell so well as you, yourself, can by trying both; you can perhaps produce a nice article of extracted for about 15c., as cheaply as comb honey for 20c. You can produce thin, raw, unripened honey without any trouble for 10c. or less, but it will probably pay you best to give your customers an article as good in every respect as that found in the nicest comb honey.

If your hives are all full, upper story and lower, and the honey is still uncapped, put on a third one, and neither let your bees hang out idly nor swarm, if it takes another story still. When they get to crowding out, give them room if you have to sit up all night to do it.

The comparative advantages of the black or common bees and Italians, is a matter that no longer admits of discussion, and I must consider the very few individuals who write in favor of the former as belonging to that class of unfortunates who seem to delight in being contrary. If tons of honey are to be considered a proof, the matter has long ago been amicably settled in favor of the Italians.

The bee moth need hardly be mentioned now, unless it is to advise you to drive them out with Italians, for whenever they come into a neighborhood, the moths get out without any farther trouble or bother. This one feature alone, is enough to justify introducing Italian queens in place of the blacks.

The usual space allowed for brood combs is about 1 7-16 inches, but the matter is not at all important. They can be worked as closely as 1⅜, or as far apart as 1¾. For surplus honey we would have about 2 inches space from centre to centre of the combs.

Perhaps no one thing in bee culture, ever brought forth such unbounded tokens of approval, as has the comb foundation. All controversies are at an end and nothing now remains but to devise ways and means whereby the expense of its manufacture may be cheapened.

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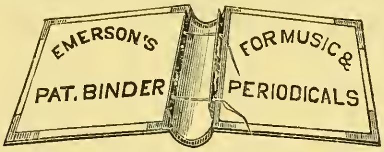


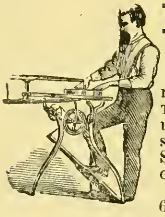
You cannot look over the back No's of GLEANINGS or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said—"Dear me what a bother—I *must* have last month's Journal and it's no where to be found." Put each No. in the Emerson Binder as soon as it comes and you can sit down happy, any time you wish to find any thing you may have previously seen even though it were months ago.

Binders for GLEANINGS (will hold them for four years) gilt lettered, free by mail for 50, 60, and 75c, according to quality. For table of prices of Binders for any Periodical, see Oct. No., Vol. 2. Send in your orders. A. I. ROOT, Medina, O.

100
PURE ITALIAN SWARMS
FOR SALE AT $5.00 EACH

for orders of five or more. Single, $6.00. Langstroth hive, size of frame, inside 17x9½. Strong colonies in a perfectly healthy condition, plenty of stores.

9-10 ALBERT POTTER, Eureka, Wis.



BARNES' FOOT POWER MACHINERY.

13 different machines with which Builders, Cabinet Makers, Wagon Makers, and Jobbers in miscellaneous work can compete as to QUALITY and PRICE with steam power manufacturing; also Amateurs' supplies, saw blades, fancy woods and designs. Say where you read this and send for catalogue and prices.

W. F. & JOHN BARNES,
6tfd Rockford, Winnebago Co., Ill.

FILES for small circular saws. Something new. With these a saw can be made to do handsomer work than ordinary planing. For sample of the work, see sample of the Section Boxes we are *now* sending out. Files mailed for 20c. each. A. I. ROOT, Medina, O.

Doolittle's Advertisement.

Having had many calls for wares used in our apiary, we have concluded to sell for samples, as below; that our bee-keeping friends, if they desire, may have a pattern to work by in making them.

Doolittle's improved Gallup hive with 30 boxes and cases and wintering arrangement all complete...	$6 25
Standard Gallup hive with 21 boxes and cases all complete..........	3 25
The above are well painted, with tin roof.	
Sample set of cases with 21 boxes that will fit any frame hive at top 14x20 (outside measure) or larger..........	2 00
Sample case with 3 boxes..........	40
Sample case with 2 boxes (by mail 16c extra).......	35
Sample box ready to nail (by mail 3c extra).......	03
Tin tacks for fastening glass in honey boxes, sample by mail 6 cts.; per 1000, 40 cts.; per 5000, 35 cts.; (by mail 8 cts. extra per 1000)	
Block to nail boxes on (by mail 35c extra)..........	1 50
Block to tin boxes on (by mail 25c extra)..........	50

Address, G. M. DOOLITTLE,
10d Borodino, Onondaga Co., N. Y.

ITALIAN QUEENS FOR THE FALL.

Unwarranted Queens,	each	....	$1 00
Warranted "	"	....	1 50
" "	per ½ doz	....	8 00
" "	per doz	....	14 00
Tested "	each	....	2 50
2 frames, nucleus and tested queen		....	4 50

Safe arrival of all queens guaranteed.

9-10 J. OATMAN & CO., Dundee, Kane Co., Ill.

GLASS HONEY JARS.

1 lb. Round Honey Jars, Corks included, per gross..	$5 00
2 lb. " " " " " ...	7 25

HONEY TUMBLERS.
NO COVER.

⅓ Pint, plain or ribbed..........	40 doz.
6 dozen in a package. Packing boxes..........	40 each.
½ Pint, plain or ribbed..........	50 doz.
6 dozen in a package. Packing boxes..........	45 each.

HONEY TUMBLERS.
TIN TOPS.

⅓ Pint..........	65 doz.
6 dozen in a package. Packing boxes..........	40 each.
½ Pint..........	75 doz.
6 dozen in a package. Packing boxes..........	45 each.

Also, Window Glass, Lamp Chimneys and glassware of all kinds, for sale by B. L. FAHNESTOCK, late B. L. Fahnestock, Fortune Co., 76 Wood St., Pittsburgh, Pa.

10-12d

Set Out GRAPE VINES in the FALL!

For $1.50 I will forward by Mail, prepaid,

1 Elvira,	retail price	$1 00,
1 Taylor,	" "	30,
1 Goethe,	" "	30,
1 Wilder,	" "	30,
6 Concord,	" "	60, equal to $2 50.

Vines will be sent in time for Fall planting. One year old Concord Grape vines at $15,00 per thousand, two year old at $30,00 per thousand, delivered at the Express office. One year old Concord vines by mail, prepaid, $1,00 per doz. Two year old Concord vines by mail, prepaid, $1,50 per doz.

Reference, the Editor of this Journal.

Address, J. G. WARNER,
9-10 Clover Farm Vineyard, Butler, Bates Co., Mo.

Basswood Trees.

Young Basswood or Linden trees, securely packed with some of their native soil adhering to the roots of each.

One foot and under, per one hundred..........	$2 00
" " " " " by mail......	3 00
One foot to five feet " "	5 00
Five feet to ten feet " "	10 00

These will be taken directly from the forest as wanted, and if planted any time after the leaves have fallen, until the ground freezes, not one in one hundred should fail to grow. A. I. ROOT, Medina, Ohio.

Prices Reduced.

I have best machinery and promptly supply

Pure Bees-wax Comb Foundation,

DRONE AND WORKER CELLS,

at following low prices. Made from yellow wax, in any quantity and sheets cut to any desired size.

		per lb.
1 to 25 lbs.,	sheets larger than 5x6 inches	55c
25 to 50 lbs.,	" " " " "	53c
50 to 100 lbs.,	" " " " "	52c
100 to 500 lbs.,	" " " " "	50c
500 to 1000 lbs.,	" " " " "	48c
1000 lbs. or more	" " " " "	45c

When sheets are 5x6 inches or less in size, add 10c per lb. for extra work in cutting and packing. If made from white wax add 25c per to lb. above prices. Our largest sheets of worker foundation are 12x24 inches; of drone foundation are 5x24 inches. One pound of wax makes from 4 to 8 square feet. We pack it in light wooden boxes with paper between the sheets.

When ordering, *be very particular* to state size of sheets and whether drone or worker is wanted. The drone foundation is especially suitable for surplus boxes or frames, and is very perfect.

Wax delivered here will be worked up to order for 25c per lb., or for 5-12 of the wax. Highest cash price paid for pure yellow wax. All freight or express charges to be paid by the purchaser.

If ordered by mail, add 25c per lb. to above prices. Samples post-paid, 10 cents.

Enlarged circular, giving prices of Queens, Bees, Hives, Boxes, Extractors, &c., &c., sent free to all. It tells how to introduce queens, how to use foundation, and gives many useful hints.

ITALIAN QUEENS FOR 1877.

I warrant safe arrivals of all my queens by mail.

Tested queens, each	$2 50
" " six	13 00
" " per dozen	22 00
Warranted queens, each	1 50
" " six	8 00
" " per dozen	14 00
Dollar queens, each	1 00
" " per dozen	11 50
A few choice imported queens, safe arrival guaranteed, each	6 00
Full colonies Italians in "Nellis Hive," (probably the best adapted to all purposes and the easiest to handle of any hive extant) with tested queens, each	12 00
Sample Hive	4 00

J. H. NELLIS, Canajoharie, N. Y.

Improved Quinby Smoker.

Quinby's "Bee-Keeping Explained." Box material for as practical a box as can be made. Glass cheaper than ever before. Queens, Hives, Colonies, Extractors, Hive Clasps, Bee Veils, etc.

Send for Illustrated descriptive Circular. L. C. ROOT,
Mohawk, Herkimer, Co., N. Y.
4tf

THE
British Bee Journal,

Is a large, beautifully printed, and profusely illustrated MONTHLY; clear type and fine heavy paper. It is conducted by CHARLES NASH ABBOTT, Fairlawn, N., London, England. Annual subscription, half-a-guinea.

We will send it with GLEANINGS and pay all postage for $2.50.

ITALIAN BEES.

Imported and home bred queens; full colonies and nucleus colonies; bee-keeper's supplies of all kinds, Queens bred early in the season. Send for catalogue.
9tf DR. J. P. H. BROWN,
Augusta, Ga.

Wm. W. Cary, Colerain, Franklin Co., Mass. Sixteen years experience in Propagating Queens direct from imported mothers, from the best district in Italy. Persons purchasing Queens or Swarms from me will get what they bargain for. Send for circular. 3 in q.

COMB FOUNDATION.

PURE BEES WAX.

Packed in neat wooden boxes—paper between every two sheets.

	per lb.	per pckg.
1 lb. 6x6, by mail	80c	80
3 " 12x18 or 8x16½, by mail	80c	$2 40
3 " " " by freight or exp.	58c	1 75
5 " " " " " "	55c	2 75
10 " " " " " "	55c	5 50
25 " " " " " "	53c	13 25
50 " " " " " "	52c	26 00
100 " " " " " "	50c	50 00
500 " " " " " "	48c	240 00
1000 " " " " " "	45c	450 00

White wax, 25c per lb. extra, if wanted, but we consider the yellow in every respect preferable; even for comb honey.

The fdn. is kept in stock, in sheets 12x18 inches, and 8x16½ inches [exact size needed for L. brood frames] packed in boxes of 3, 5, 10, 25, 50 and 100 lbs. each, and shipped only in these boxes at the above prices.

There are 5 cells to the inch, and one pound of wax makes from 4 to 9 square feet of surface. The thinnest will be used by the bees, but is not made into comb as quickly as the heavier, which has a greater depth of cell.

If 60 lbs. are wanted, send money for a 10 lb. box and a 50 lb. box, &c. The difference in price is only enough to cover the difference in cost of boxing, packing, &c.; five 10 lb. boxes, and packing, handling and nailing up five boxes, cost much more than one 50 lb. box, and packing, handling and nailing up one box.

As these packages are all put up and kept in stock, there can be *no variation*, unless at an additional price.

Now, my friends, if you want all sorts of quantities, or want it cut all sorts of sizes, I will accommodate you with all the pleasure in the world, for TEN CTS. PER LB. EXTRA.

Wax will be worked up to order, and cut into sheets of any size desired, for 25c per lb. in quantities of 100 lbs. or more.

We will pay 30c per lb. cash for bright yellow wax, or sell it for 35c.

At above prices we can pay no express or freight charges either way.

Comb Foundation Machines.

Machines for making sheets 1 foot wide -	$100 00
Expressly for L. frame, 9 inches wide -	50 00
For making 5 inches for section boxes -	30 00
Double Boiler for above machines, -	$3.00, 3.50 and 4.00
Dipping plates per pair, - -	$1.00, 1.50 and 2.00

The above prices are for cells 4½ or 5 to the inch. If drone size is wanted, add $10, $5 and $3 respectively to above prices. The machines are all ready for use, and full instructions will be sent to each purchaser.

Address, A. I. ROOT, Medina, Ohio.

We have sold $30.00 machines for making comb foundation to

Rev. J. Van Eaton, York, N. Y.; Lewis Walker, Ventura, Cal.; G. M. Dale, Border Plains, Iowa; G. W. Gates, Bartlett, Tenn.; A. Salisbury, Camargo, Ills.; C. F. Lane, Koshkonong, Wis.; Wm. S. Hersperger, Jefferson, Md.; Wm. Riatt Liff, by Dundee, Scotland; W. S. Boyd, Bethany, O.; W. R. Bishop, Sherwood, Wis.; Dr. J. B. Hawkes, Arlington Heights, Ills.; A. W. Foreman, M. D., White Hall, Ills.; Mrs. M. D. Minor, Port Jackson, N. Y.; C. M. Joslin, M. D., St. Charles, Mich.; T. G. Newman, Chicago, Ills.; C. L. Johnston, Danville, Pa.

A $33.00 (5 inch drone comb) machine to J. H. Nellis, Canajoharie, N. Y.

Nine inch $50.00 machines to C. R. Carlin, Bayou Goula, La.; Jno. Hunter, 5 Eaton Rise, Ealing, England; J. B. Stevenson, San Bernardino, Cal.

Twelve inch $100.00 machines to C. O. Perrine, Chicago, Ills.; D. A. Jones, Beeton, Ont., Canada; J. Madory, Los Angeles, Cal.; J. H. Nellis, Canajoharie, N. Y.

CLUBBING LIST.

We will send GLEANINGS—

With The American Bee Journal	($2.00)	$2.50
" The Bee Keeper's Magazine	(1.50)	2.00
" Both The above Bee Journals of America		4,00
" British Bee Journal	($2,00)	2,50
" All Three		5,50
" American Agriculturist	($1.60)	$2.25
" Prairie Farmer	($2.15)	2.90
" Rural New Yorker	($2.50)	3,25
" Scientific American	($3.20)	3,90
" Fruit Recorder and Cottage Gardener	($1.00)	1,75

[*Above rates include all Postage.*]

E. W. HALE'S

Price List of Bees, Queens, Etc., for 1877.

1 Full colony .. .. with tested queen	$13 00
1 three frame nucleus “ “ “	5 50
1 “ “ “ “ dollar “	4 00
1 tested queen	2 50
1 untested “	1 00

A discount of 10 per cent will be made on all orders of more than $10.00 each. All my queens are raised from *Imported Mothers*, I only guaranteeing the safe arrival *of all tested queens* within 1000 miles. The money must accompany each order, and all orders will be filled strictly in rotation. My location enables me to furnish queens much earlier than parties farther north. Address,

2-10d E. W. HALE, Wirt C. H., W. Va.

SQUARE HONEY JARS.

One pound square honey jars, per gross	$5 00
Two “ “ “ “ “ “	7 00

Corks, Caps, Labels, &c., at reasonable rates.

For further particulars address,

CHAS. F. MUTH, Cincinnati, O.

BOOKS for BEE-KEEPERS and OTHERS.

Any of these books will be forwarded by mail, *post-paid*, on receipt of price.

In buying books, as every thing else, we are liable to disappointment if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them *for sale* it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage, shall not be disappointed, and therefore, I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with a *, those I *especially* approve * *; those that are not up to times †; books that contain but little matter for the price, large type and much space between the lines ‡; foreign §.

BOOKS ESPECIALLY FOR BEE-KEEPRES.

Langstroth on the Hive and Honey Bee**†	$2 00
Quinby's Mysteries of Bee-keeping**†	1 50
Bee-keeper's Text Book*†....muslin	75
“ “ “ “ *†....paper	40
A Manual of Bee-keeping, by John Hunter*§	1 25
Manual of the Apiary, by Prof. A. J. Cook**	30
Dzierzon Theory**	20
How I Made $350 a Year with my Bees*†§	25
How to make Candy**	50
Art of Saw-filing*‡	75
Lumberman's Hand Book***	15
Fuller's Grape Culturist**	1 50

MISCELLANEOUS HAND BOOKS.

Ten Acres Enough**	1 25
Five Acres too Much**	1 50
Tim Bunker Papers*	1 50
An Egg Farm, Stoddard**	50
Window Gardening	1 50
Purdy's Small Fruit Instructor*	25
How to Use the Microscope	75
Play and Profit in my Garden*	1 50
“Our Digestion,” by Dio Lewis**	2 00
Onion Culture*	20
Potatoe Pests, by Prof. Riley **	50
Practical Floriculture*	1 50
Gardening for Profit**	1 50
Strawberry Culturist, Fuller*	20
Small Fruit Culturist, Fuller*	1 50
Forest Tree Culturist, Fuller*	1 50
How to Build Hot-Houses, Leuchar§	1 50
Draining for Profit and Health, Warring	1 50
What I know of Farming, Horace Greely	1 50
Injurious Insects, Prof. A. J. Cook***	10
Scroll sawing, Sorrento and Inlaid work *‡	1 50
Moody's Best Thoughts and Discourses ***	75
Moody and Sankey's Gospel Hymns, words only	06
“ “ “ words and music, paper	30
“ “ “ “ “ boards	35
Murphy Temperance Pledges, per 100 cards	40
One doz. above, as samples	07

BOOKS THAT I HAVE NEVER EXAMINED, BUT THAT ARE IN GOOD REPUTE.

Broom Corn and Brooms....paper 50....cloth	75
Cider Maker's Manual, Buist	1 50
American Pomology, Warder	3 00
Canary Birds....paper 50....cloth	75
Farmer's Barn Book	1 50
Pear Culture, Fields	1 25
American Bird Fancier	30
American Weeds and Useful Plants	1 75
Bement's Rabbit Fancier	30
Bommer's Method of Making Manures	25
Burn's Architectural Drawing Book	1 00
Burr's Vegetables of America	3 00
Cooked and Cooking Food for Domestic Animals	20
Copley's Plain and Ornamental Alphabets	3 00
Dana's Muck Manual	1 25
Darwin's Variations of Animals and Plants, 2 vols	5 00
Gun, Rod, and Saddle	1 00
Harris on the Pig	1 50
How to Get a Farm and Where to Find One	1 25
How to Use the Pistol	50
Jennings' Horse Training Made Easy	1 25
Johnson's How Crops Feed	2 00
Johnson's How Crops Grow	2 00
Klipparts Wheat Plant	1 75
Leavitt's Facts About Peat	1 75
Mrs. Cornelius's Young Housekeeper's Friend	1 50
Plummer's Carpenters and Builder's Guide	1 00
Skillful Housewife	75
American Fruit Culturist, Thomas	3 75
Cranberry Culture, White	1 25
A Simple Flower Garden, Barnard	38
Farming by Inches, Barnard	38
Gardening for Money “	1 50
My Ten Rod Farm “	38
Strawberry Garden “	38
Carpentry Made Easy, Bell	5 00
Fur, Fin, and Feather	50
Fish Culture, Garlick	1 50
How Plants Grow, Gray	1 25
Manual of Botany and Lessons, Gray	3 00
School and Field Book of Botany, Gray	2 50
New Cook Book, Mrs. Hale	2 00
My Farm of Edgewood	1 25
American Angler, Norris	5 50
Rhododendrons, Rand	1 50
Landscape Gardening, Downing	6 50
Guenon on Milch Cows	75
Sorgho, or the Northern Sugar Plant, Hedges	1 50
My Vineyard at Lakeview	1 25
Shooting on the Wing	75
American Wheat Culturist, Todd	1 50
Cotton Planters' Manual, Turner	1 50
Practical Butter Book, Willard	1 00
Youatt on the Hog	1 00
Youatt on Sheep	1 00
Garden Vegetables, Burr	2 50
Fruits and Fruit Trees of America, Downing	5 00
Complete Works on Chemistry, Leibig	2 00
Gardening for Ladies, Loudon	2 00
Riley on the Mule	1 50
Flax Culture (seven prize essays by practical growers)	30
Peach Culture, Fulton's	1 50
How To Paint, Gardner	1 00
Gregory On Cabbages....paper	30
Gregory On Squashes....paper	30
Gregory On Onions....paper	30
Insects Injurious To Vegetation....Plain, $4 00.. With colored plates, $6 50	
Gardening For Pleasure, Henderson	1 50
Hop Culture	30
Jenny June's Cook Book	1 50
Cotton Culture, Lyman	1 50
Manual Of Flax Culture and Manufacture	25
Parsons On The Rose	1 50
Potatoe Culture, (prize essay)....paper	25
Money In The Garden, Quinn	1 50
Pear Culture For Profit, Quinn	1 00
Manual On The Culture Of Small Fruits, E. P. Roe	50
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GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS

Vol. V. OCTOBER 1, 1877. No. 10.

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APIARY OF E. M. HAYHURST, NEAR KANSAS CITY, MO.

ALSO, EXACTLY OUR IDEAS OF PREPARING BEES FOR WINTER.

MR. EDITOR:—I believe Missouri has made no claims to advanced bee culture, although it must be regarded a honey producing state. Bees thrive throughout its entire extent and are carefully attended to in various parts. I believe however no single county has as many large and successful bee-keepers as this county of Jackson. I have now in mind seven persons who keep from 50 to 150 colonies each, making bee culture their principal care. Among this number I have no hesitation in placing Mr. Hayhurst in the lead; not because he keeps the most colonies, (for he keeps only about 75), but because he keeps in line with all the modern appliances. I believe no valuable suggestion from any of your numerous contributors has been neglected in his practice. A visit to his apiary interests, if it does not surprise all amateurs. His hives, all of the Langstroth pattern, in purest white, are arranged in hexagonal form at the distance of 7 feet from centre to centre, with a grape vine (yet small) growing on the west side of each. His honey house, adjacent, contains his implements and honey. I notice therein, his queen nursery whereby he has been enabled to furnish a large number of Italian queens this season. He tells me he intends to produce largely the coming year, and your readers in this locality will know where to find beautiful *Italians*. I hope he will succeed in getting a fine *imported* queen from you to raise from.

One feature in Mr. Hayhurst's success I deem particularly worthy of notice; and that is the wonderful populousness of his colonies. In addition to the very large amount of mature bees in and about the hives, I saw in numerous instances eight frames with the capacity of 6000 cells each, all filled with brood to the very corners.

He supersedes his old or lazy queens before his colonies become weakened, and by uniting his small stocks keeps all up to their highest working capacity. This feature enables him to obtain large quantities of surplus honey, averaging nearly 100 lbs. per colony. He is not running his apiary for increase, but for honey; and although he sells some colonies he does not labor for their disposal. The strength of his colonies absolutely prevents moth depredations and bee robbing—two fruitful sources of loss to bee-keepers generally.

I think the method of wintering which he has so successfully practiced for several years, especially worthy of commendation. On occurrence of frosts which prevent honey gathering, he thoroughly examines each hive and places it in winter quarters. This is done by removing all supers that have not previously been removed, together with the two outside frames of the brood chamber. Should these outside frames contain brood he changes it with some other colony; otherwise he stores it in his honey house for future use. He, at the same time, equalizes the stores of all his colonies, allowing each to retain about 30 lbs. of honey. The surplus frames not unusually containing in the aggregate, upwards of 500 lbs. of nicely capped honey (for if a single frame is not perfectly capped he either exchanges it with one that is or extracts it) are suspended in his honey chest and again used as occasion requires, to stimulate brood raising in early spring. On either side, next to the bees, he places a division board, of same size of the frame, leaving a space of about one inch between outside of the hive and division board, which space is filled with very fine dry hay or grass, not dissimilar to your chaff cushions. A super filled with the same material or chaff, which is prevented by means by means of duck or old carpet from getting down among the bees, finishes their covering for the winter. They are then left with contracted entrance on their summer stands and he has not lost a colony thus prepared for wintering, in years. Even nuclei winter safely thus prepared.

It is worthy of remark that the more populous the colonies the less proportionate amount of honey is consumed, and bees lost in winter. By frequent examinations in early spring, he keeps posted in regard to their condition, and to such as are getting short in stores, he restores a frame of honey kept for the purpose. He thus fed upwards of 300 lbs. last spring, and in consequence had his stocks full and strong at commencement of the honey season.

Perhaps I am telling his secrets, but as he had no hesitation in disclosing the same to me, I think some of your readers may possibly profit by his experience. And here let me say, that on his returning my visit he particularly examined your section boxes, remarking that he believed he would get up machinery and manufacture similar ones for bee-keepers in this locality. As he is a thorough mechanic, I advise you to file a caveat for your patent at once, or you certainly will have competition in their manufacture shortly.

I shall visit him again ere long, and such further disclosure of importance as he may make I will communicate. S. W. SALISBURY, Kansas City, Mo.

Friend S., you have done us all a great favor indeed, by your excellent letter. The advice for wintering, or rather for preparing bees for winter, gives my ideas so exactly, that I do not know how I can improve on it by the addition of any remarks. Getting the bees on as few combs as possible, then having the chaff or hay come close up to the bees, is a point that I would particularly emphasize. To do this, of course we must give strong colonies more food, and more room, in the spring. And to do this just as it should be done, our friend has a good supply of filled combs on hand for the purpose. Having these reserve combs *full* of honey, every one of them, is another bright idea. Then when you give a colony a comb, you give them more room, and more food, both at the same time, and when you feed them, you feed them *enough*. My friends, if you want my ideas in regard to wintering, and in fact in regard to bee-keeping in general, you have it in the description of friend Hayhurst's apiary. The *perusal* of it, has given *me* new life for the work of preparing for winter, and if I follow it right out, as I now feel like doing, I do believe that I—and you too my friends—can winter our bees *without losing one colony.* Let us sell or destroy our surplus queens, and double up until all are strong colonies. Now crowd the bees on to six or seven combs, put in your soft hay or chaff division boards at the sides, put a foot or more of the same over them, tuck them up snugly, and feed until these six combs are bulged with sealed honey, unless they are already bulged without the feeding. Make the entrance small, and then just let them alone, until next April or May, letting them fly out and enjoy the sunshine, whenever they wish.

One word in regard to 7 feet between the hives; we have always had ours 6 feet from centre to centre, and have never had any reason to wish the distance greater.

CALIFORNIA.

FEEDING, CANDY VERSUS SYRUP, THICK HONEY, &C.

OUR bees have to be fed largely, and from trial I find the same weight of sugar made into candy for them, will last more than enough longer to pay for the extra work—if it *is* extra—of making the candy instead of feeding syrup. Another thing aside from cost, is the ease of feeding—and certainty of knowing when the candy is gone by simply raising the cover, or opening the door of the hive without being obliged to take out the frames to examine. As we do not want them to store an ounce of sugar in their combs beyond just enough to carry them through alive until new honey comes, we will let candy serve us and if any be left not eaten when they begin to gather honey, we can quickly take it away and store it safely until wanted again—if ever. It is almost an impossibility to feed liquid food without setting robbers at work, even when one does not open a hive until near sunset and works until dark.

In the proceedings of our county association, I notice the impression seemed to be that the bees were strong and the recommendation was made to sulphur all the stocks one could not afford to feed. It strikes us that if a thorough examination be made, there will be enough weak and queenless stocks in any apiary of any size *this* year, to admit of uniting down to a respectable number.

The season has been so very bad that bees went contrary to all previous ideas of their habits, which furnished a very useful lesson.

The most thoroughly learnt lesson, and the one not likely soon to be forgotten here, is not to extract from the main frames near the end of the season, and not to be caught without honey enough on hand all the time to feed if they need it. At the close of ordinary seasons the hives are filled almost solid with honey, of which little is used before the new crop begins to come in, the result being that hives are honey bound and do not get strong until late in the spring.

To obviate this, it is best to use the extractor as soon as the manzinita—our first honey plant—comes in bloom, and take the honey from all the main frames that are free from brood. At that season of the year bees work every day, but stocks are weak and the honey cold--too cold to throw out without artificial heat. Manzinita does not bloom until 30 days after the first *heavy* rain—usually December, so that one gets at work extracting during January, when the heat at mid-day is about 65°. Our honey can not be thrown out unless the thermometer stands at about 75° for several hours, which we do not get often during the winter months.

I have a large box arranged to hold 50 or more main frames, as nearly air tight as may be, and deep enough to apply heat at the bottom without danger of melting. I heat with hot bricks. Three or four tied together with stout wire and set on the bottom of the box will soon run the temperature up to about 85° to 90°, at which heat it should remain about an hour before trying to extract. A common table, with a hole 2 inches wide and a foot long, cut out of the middle, running lengthwise, is used for uncapping the combs. The caps and projecting bits of comb drop through this hole in the table into a box with a coarse wire cloth bottom, and this rests on a can to catch the honey. The cappings and bits of wax will drain pretty clean in a few hours and may then be washed and put into the wax extractor.

Wax is extracted here by the heat of the sun and to do it, we make the same kind of a machine that is used for straining honey. A box with a V shaped bottom, deep enough to hold two strainers and large enough to have a 4 light sash 10x14 glass cover the tops. The sash is the only movable part, but a hole with a spigot is put in near the bottom to draw off the honey. Two light frames are made to fit the inside of the box, over which common burlap sacking is tacked. The strainers are fixed about 3 or 4 inches apart. The wax is put on the upper strainer and sash put on when in a few hours you will find the wax all melted and gone from the upper strainer and resting nicely cooked on the under one, while the honey down in the bottom of the V is ready to draw off. Wax taken in this way is pretty well cleansed and usually very bright and pretty. Of course it requires re-washing and re-melting into moulds before it is ready for market.

We have long had comb carriers, similar to the one you make of tin, only ours are first made of a light strong frame, covered with burlap sacking, the cover being of the same, tacked on each edge, with a round stick sewn in the other edge, the cover being wide enough to go clear over, the stick holding the cover down. Our carriers are made to hold 5 or 6 frames, but about 4 is all a man cares to carry at once. Instead of handles like those of a water pail, we nail a strip of wood on each end to carry by. These handles can be grasped by the full hand.

Syrup made of two pounds of light brown sugar to one pound or pint of water boiled and skimmed, is pretty thick food for our climate, but the water will evaporate in the hive to a certain extent.

The honey dew mentioned in a previous letter did not prove to be of much service as it lasted only an hour or two in the morning. Hives do not seem to get heavy very fast where it is the most abundant.

G. F. MERRIAM, San Luis Rey, Cal., Aug. 16, 1877.

UNITING BEES.

YOU often recommend uniting weak stocks. I have some of that sort and wish you would oblige me by giving, in next number, a good hint as to your method of doing it. Would not the bees go back to the old stand? The only way I can see, is to *do* it, and risk their going back.

ED. NOTLEE, New Orleans, La., Sept. 7th, '77.

Uniting colonies, is much like introducing queens, inasmuch as no fixed rule can be given for all cases. It is a very simple matter to lift the frames, bees and all out of one hive and set them into another, where the two are situated side by side. Usually, there will be no quarreling, if this is done when the weather is too cold for the bees to fly, but this is not always the case. If one of them is placed close to one side of the hive, and the other to the other side, and they are small enough for a vacant comb or two between them, they will very rarely fight. After two or three days, the bees will be found to have united themselves peaceably, and the brood and stores may then be placed compactly together, and your chaff cushions put in at each side. If there are frames containing some honey, that cannot be put in, they should be placed in an upper story, and the bees allowed to carry it down. You should always look to them 20 minutes or half an hour after they are put into one hive, to see if everything is amicable on both "sides of the house." If you find any bees fighting, or any doubled up on the bottom board, give them such a smoking that they cannot tell, "which from t'other," and after 15 or 20 minutes, if they are fighting again, give them another "dose," and repeat until they are good to each other. I have never failed in getting them peaceable after two or three smokings.

If you wish to unite two colonies so large that a single story will not easily contain them, which by the way I feel sure is always poor policy, proceed as before, only set one hive over the other. If this is done on a cool day, and the bees are kept in for two or three days, few, if any, will go back to the old stand. If the hives stood within 6 feet of each other, they will all get back without any trouble any way, for they will hear the call of their comrades who have discovered the new order of things. Sometimes you can take two colonies while flying, and put them together without trouble, by making the lost bees call their comrades. Actual practice and acquaintance with the habits of bees will alone, enable you to do this, and if you have not that knowledge, you must get it by experience. Get a couple of colonies that you do not value much, and practice on them. As I have said all along, beware of robbers, or you will speedily make two colonies into none at all, instead of into one.

WHAT TO DO WITH THE QUEENS

If one of the colonies to be united, has been several days queenless, all the better, for a queenless colony will often give up its locality and accept a new one by simply shaking them in front of a hive containing a laying queen. From a hive containing neither queen nor brood, I have induced the whole lot to desert, and go over to a neighboring colony, by simply shaking a part of the bees in front of it. These were so overjoyed at finding a laying queen, that they called all their comrades to the new home, and all hands set to work and carried every drop of honey to the hive with the fertile queen. By taking advantage of this disposition we can often make short work of uniting. If you are in a hurry, or do not care for the queens, you can unite without paying any attention to them, and one will be killed; but, as even a hybrid queen is now worth 50c., I do not think it pays to kill them. Remove the poorest one and keep her safely caged, until you are sure the other is well received by all the bees. If she is killed, as is sometimes the case, you have the other to replace her. Where stocks are several rods apart, they are often moved a couple of feet a day while the bees are flying briskly, until they are side by side, and then united as we have directed. This is so much trouble, that I much prefer waiting for cold weather. If your bees are in box hives, I should say your first job on hand, was to transfer them. If you have several kinds of hives in your apiary, you are about as badly off, and the remedy is to throw away all but one. My friends, those of you who are buying every patent hive that comes along, and putting your bees into them, little know how much trouble and bother you are making yourselves for the years to come.

In conclusion, I would advise deferring the uniting of your bees until we have several cold rainy days, in Oct., for instance, on which bees will not fly. Then proceed as directed. If you have followed the advice I have given, you will have little uniting to do, except with the queen rearing nuclei; and with these, you have only to take the hives away, and set the frames in the hive below, when you are done with them. If the hive below is a strong one, as it should of course be, just set the frames from the nucleus into the upper story, until all the brood has hatched. If you wish to make a colony of the various nuclei, collect them during a cold day, and put them all into one hive. If you have bees from 3 or 4, they will unite better than if they came from only two hives, and you will seldom see a bee go back to his old home. A beginner should beware of having many weak colonies in the fall, to be united. It is much safer, to have them all strong and ready for winter, long before winter comes.

* * *

ITALIANS, AND LONG COLD WINTERS.

I HAVE 1200 lbs. honey, three-fourths of it box, this summer from 30 hives of bees. Very dry. No rain worth having since June.

Have a thumb half paralyzed for a month past, the result of two of the "lightning thrust" stings of the hybrids. Has any one else had a similar experience? The thumb is now improving. This is a little discouraging after a dozen years handling bees of all kinds. Would almost as soon attempt to run an apiary of black hornets, as an apiary of hybrids; and yet they are very fine workers. But the best yield of honey I ever had from one hive, was 200 lbs. extracted from one of the purest, brightest, gentlest Italians I ever owned. I don't want any more hybrids.

Hadn't you better go a little slow in recommending Italians, for our climate, with its *long* winters?

The natural *habitat* of the Italian is a far milder climate than this, where they can fly every month in the year, and shutting them up 5 or 6 months of the year is quite a different thing.

I have spent much money upon Italian queens, and have had some beautiful Italians, over which I was quite enthusiastic, and of course, I have had all grades of vicious hybrids.

If I lived a few hundred miles south of this, I would keep nothing but *pure* Italians, but here, I now keep none but blacks. I had good Italian queens, most of them from Adam Grimm, but I never, I think, succeed in keeping an Italian queen and swarm through *two* winters, while I lost most of them the first winter. This, when the blacks beside them were going through about as usual. Finally I unwillingly gave them up. My neighbors, who tried Italianizing, had a similar experience and all gave them up.

The most extensive and successful of Minnesota apiarists lost 200 swarms of them in one winter, and was forced to the unwelcome conclusion that they would not stand our winters nearly so well as the natives "to the manor born." Perhaps I should say that I always winter in cellar.

J. W. MURRAY, Excelsior, Minn.

Your position in regard to the wintering of Italians, is certainly one peculiar to yourself, friend M., or at least to a very few bee-keepers. The matter is one that was frequently brought up a few years ago, but scores of reports through our Journals soon decided that black bees died just the same as the Italians. The yield of honey you mention, from a colony of pure Italians, is enough better than what the blacks do, to pay for buying new stock every year, if we could do no better. If I am correctly informed, many of your Minnesota apiarists gave up bees entirely, both blacks and Italians, after their extensive losses. If such was not the case, why do we hear no more of their large yields that used to make such sensations? It is true the Italians are natives of a warmer climate, but for that matter so are all bees, if I am correctly informed. I do not think extensive experiments will show the Italians any less hardy, but it is very likely true that black bees will be less affected with dwindling, because they are less liable to go out of the hives during unseasonable weather in the spring. By using hives that are not easily warmed through by every transient bit of sunshine in the early spring, I think we shall avoid the dwindling in a great measure. Will our friends in Minnesota who have both kinds of bees, please state whether the impression is general, that the Italians have been in any way more affected by the recent wintering maladies than the common bees?

HONEY FOR COOKING PURPOSES.

ONE of your correspondents tells of selling honey for 7 cts. a pound. I use honey in place of sugar for cooking and my visitors think it is as nice as sugar and for some things nicer. It makes splendid raspberry short cake and for black berries is far ahead of sugar. I will send you some receipts that Mrs. Ellen S. Tupper used for years, she says they are all good; the plain cake I know is, and I shall try the grapes this fall. We have to pay 13 cts. for brown sugar here. MRS. S. A. PHILP, Clare, Mich.

TO PRESERVE GRAPES WITH HONEY. Take 7 lbs. of sound grapes on the stem, the branches as perfect as possible, pack them snugly without breaking, in a stone jar. Make a syrup of 4 lbs. of honey, 1 pint good vinegar, with cloves and cinnamon to suit, (about 3 oz each is our rule) boil well together for 20 minutes, skim well, then turn boiling hot over the grapes and seal immediately. They will keep for years, if you wish, and are exceedingly nice. Apples, peaches and plums may be done in this way.

Another way. Pick grapes from the stem and pack into a jar until it is full. Then turn cold honey over them until they are covered well. Seal up without any heat, and keep in a cool place. After a few months they will be found to be delicious. All kinds of fruit made into jam, with honey instead of sugar are nice. Those who are fond of honey consider "butter" made in this way nicer than when made with sugar.

GINGER SNAPS. One pint honey, ¾ lb. of butter, 2 teaspoonfuls of ginger, boil together a few minutes, and when nearly cold put in flour until it is stiff, roll out thinly and bake quickly. (I would use 1 teaspoonful of soda.—S. P.)

HONEY CAKE. One cup butter, 2 cups honey, 4 eggs well beaten, 1 teaspoonful essence of lemon, ½ cup sour milk, 1 teaspoonful soda, flour enough to make it as stiff as can *well be stirred, bake at once in a quick oven.*

HONEY FRUIT CAKE. Four eggs, 5 cups of flour, 2 cups of honey, 1 cup sweet milk, 2 teaspoonfuls cream of tartar, 1 teaspoonful soda, 1 lb. raisins, 1 lb. currants, ¼ lb. citron, 1 teaspoonful each cloves, cinnamon, and nutmeg, bake in a large loaf in a slow oven. This will be nice months after baking as well as when fresh. (I think she must have forgotten the butter, *I would use 1 teacupful.*)—S. P.

FROM AN OLD FRIEND, WHO HAS JUST COME BACK INTO OUR RANKS.

HERE I am, alive and buzzing yet. Now don't make naughty faces, for I have not bothered you for a few years. We began this season with 3 colonies of bees, doubled them and took rather more than ½ barrel honey, extra thick and clear. Of course that is nothing to brag of; but I am going it slow and sure this time, that is, if I *can* go sure. Have just safely introduced two queens bought of E. C. Blakeslee. I have never lost a queen in introducing, after I got her into the hive. Have introduced quite a number for myself and neighbors in last few years. I once let one go from the cage on a comb of brood. She took a turn or two among the bees and then flew away without even saying good-bye; that was the only queen I ever lost in introducing. A few days ago I "took up" a colony of bees for a box hive neighbor, as he had no brimstone handy; I was to have the bees, and he the honey. I found they were hybrids, being descended from the first pure Italian queen I ever owned (which by the way was a present to me from Novice). I never had a queen that I valued as much, and only one that was her equal, and that one ought to have been a good one for it took H. Alley, 18 months to rear it.

In August GLEANINGS, page 210, in describing your shipping case you say "The two sheets of glass can be purchased anywhere for about 12 cents." Now I have bought, in Medina, only a few doors from you, window glass 12x18 and paid 25c each. How is that?

Our friend Thos. Pierson, of Ghent, met with a serious accident. He was lifting a hive of bees over the fence, and the fence broke down letting him fall; for a few days he was not expected to live, but is better now. I saw him a month ago, and he said he would have 1500 lbs. comb honey.

Send me sample section box with fdn. I was in your store two weeks ago, and waited an hour for you to be at leisure so I could ask you for them, but you were very busy. SETH LUCAS.

Remson Corners, Ohio, Aug. 12, '77.

When a queen flies away, leave the hive open, and go away, for she will be sure to come back to the spot where she took wing. I never knew one to fail in so doing, unless she was reared near by, but a short time before; in which case you will find her at her old home where she took her wedding flight. They are good property, even if you see them away up in the clouds—don't know but I am putting it rather "high"—if you only have your wits about you.

The glass for the shipping case are only 7½x17, and our hardware man gave us the figures, but upon inquiry, I find that it should have been 12c *each.* At wholesale by the box, they will cost only about 8c.

I am very sorry not to have seen you, friend L.; you should have "buzzed" around and made yourself known. We are always busy, but our smallest boy would have given you a section box in a twinkling, had you only said the word.

OUT-DOOR WINTERING; 8 AND 11 FRAME HIVES; FOOT POWER SAWS, &c.

IN the spring of 1876 I started with 14 swarms, 11 frames in a hive, size of frame 10¼x15¼ inside measure. I took from the 14 and their increase, which was 11, making in all 25 swarms, 650 lbs. of box honey and 150 of extracted. I sold 3 swarms for $22,00 which left me 22 to winter, one of the number being in a hive with 12 frames 15¼ long and 6 inches deep; I also had 2 nuclei with 3 large sized frames each. I weighed 6 swarms when I put them up, which was the first week in Dec.; each was packed in a box 6 inches larger every way than the hive, and the space filled with shavings from the planing mill. The first of May 1877, I unpacked and weighed them and found that it took, on an average, 16 lbs. to the hive, to winter the 11 frame hive, and 10 lbs. for an 8 frame hive, on their summer stands. All were in good condition except 3, and those were Italians; one was weak and the other two dead; the only bees I've lost in 5 years, and those I think would have come through all right if I had tucked the quilt down around them as I ought. I lifted the quilt to put in some candy, and didn't get it down to its place again; so much for not doing things as I know I ought.

I see by the last Journal, that the question is asked, if grain bags are good for quilts to be used on top of the frames. I would say that I have been using them all the summer so far, and I think them first rate; but you want to pick out those that are firm, not "slazy."

I have one of those Barnes' foot power saws, which I would not be without for anything. I made all of my 100 hives with it last winter, and I hardly touched a common saw or a plane to the whole lot. In sawing out frame stuff, the saw leaves the wood so smooth that there is no need of a plane. With it you can do all your rabbeting, and in fact everything about a hive, in the sawing line. I make all my little section frames for the top of the hive, with it; the frames are 5 inches square. They hold 1½ lbs.—just right to sell quickly. J. H. MURDOCK, Dexter, Mich.

It certainly takes more stores to winter a large colony, than a small one, as perhaps many of our readers have observed. We last season wintered a small colony in the house apiary, that did not probably consume more than 6 or 8 lbs., but they were so much behind strong stocks, that it was not much of an object after all. If the chaff *should* enable us to winter such safely, it would be a fine thing for the purpose of being able to supply early queens. I too killed a colony by leaving the quilt open at one corner carelessly in the spring; it was not a good colony, or they would have stood it I presume, but it is without doubt, very important that the brood should be closely "tucked up," when they commence brood rearing largely in the spring. We are very glad indeed to hear you succeeded so well with your Barnes' saws, but at the risk of losing some customers, will add that *every* one does not. Like other things, there are a few who find fault with them.

DOOLITTLE'S REPORT.

DEAR GLEANINGS:—We have had one of the best seasons for honey since 1870, and we have left no stone unturned, that in our judgement, would give us one pound more of honey. By turning to page 179, present Vol., it will be seen that we had 80 stocks the first of June. 50 of which were good fair stocks, and 30 weak. About the 12th of June we decided that we could work but 67 of said stocks to any purpose for honey; so we broke the remaining 13 very weak ones up into 30 nuclei for queen rearing. We also decided to work two exclusively for extracted honey, and the remaining 65 were run for box honey. June 18th, white clover began to yield honey and our bees commenced work in boxes soon after. Basswood opened July 14th and lasted till the 28th, which with teasel yielded abundantly. Aug. 2d the flowers failed to secrete honey entirely, and we could only work at bees night and morning, on account of robbers. Aug. 16th, buckwheat came into blossom and lasted till Aug. 28th, when our honey season closed for 1877. The result of our season's work is as follows.

Box honey, white	8761 lbs.
" " dark	1523 "
Extracted	893 "
Total	11177 lbs.

Our average yield of box honey from the 65 old stocks in spring, was 158 pounds per stock. Average yield from the two extracted swarms 446 pounds. Average yield from 67 stocks in spring, of both box and extracted, 166¾ pounds.

We have at date 152 stocks in fine condition for winter. Our bees did not swarm as much as usual this year, thus proving what we have always claimed, that Italian bees were not as liable to swarm in a good yield of honey as when there was but little to be had. We would be satisfied to give the average yield per colony of an apiary, as we always have before, were it not that we find on page 122, present Vol., that the "merits" of a hive are to be tested by the number of pounds produced by a single colony. Therefore we will give the number of pounds produced by a few colonies which we kept a record of.

Our best extracted swarm gave 566 pounds. The largest yield from it was given from July 21st to 24th, being 66 lbs., or 22 lbs. per day. This stock was the production of one queen it being helped in no way, from any other colony. We kept record of only three stocks in spring, worked for box honey, but had several others that did nearly or quite as well, which we kept no record of. From our best stock, we obtained 309 lbs.; from another 301, from the third 286, making 896 lbs. of box honey produced by three stocks in spring. Each of these stocks gave us one new swarm which made a part of said honey, but we think the yield would have been greater if they had not swarmed. We gave one of these stocks from 12 to 18 boxes filled with fdn., otherwise they built their combs from starters such as we usually use, as we have explained in back numbers of GLEANINGS.

On page 135, Vol. II, we said, "We have come to this conclusion in regard to profit in bee-keeping, and consider it perfectly safe—that each old stock in the spring, that has a quart of bees, will make 80 lbs. of box honey if the season is good. If they swarm the *two* will make that, and if they do not, they certainly will. One man can with ease tend one hundred stocks worked for box honey. Now, allowing every other season a poor one, so that the bees do nothing, we still have two tons of honey for each year. Twenty-five cents is the lowest price for nice box honey. so we will have $1000 each year as an income." Although honey, at the present time, will not bring 25c per lb., we have no reason to believe that a practiced apiarist would realize less than $1000 per year from 100 stocks. In fact we have cleared, free of all expense, $6000 within the last five years with but about one-half that number.

In conclusion we would say, as we said on page 30, present Vol., "Bee-keeping only pays when our pets are properly cared for, and if any one can not spend the required amount of time on them, he had better keep out of the business, for sooner or later, he will turn away from it in disgust."

G. M. DOOLITTLE.

Borodino, N. Y., Sept. 12th, 1877.

The above is one of the best reports we have ever had from an apiary of the size mentioned; the good season may have had something to do with it, but not all, for Mr. Doolittle makes a good report every year; and we doubt if we have a bee-keeper in our land, who makes as good a yield year after year, from the number of colonies kept.

Several have remarked that he loses largely in wintering, and has many weak colonies every spring. Friend D., you say you have 152 stocks in fine condition for winter; now before we put you clear at the head of the class, we want you to bring those 152 through to next May, *without losing a single colony.* Quite a number have recently wintered large apiaries without losing any, and you can do the same if you only set about it. Our neighbor Shaw of Chatham used to be the most unsuccessful at wintering, of any bee-keeper in our county, but he wintered nearly or quite a hundred colonies last winter without losing a single one, *or even having a weak one.* During a visit we have just paid his apiaries, he declared it was all owing to the right kind of care, and nothing else. They were shut up in small space, and packed in chaff.

By the way, as the 566 lbs. of extracted honey from one hive is something unusual, but one greater yield being on record, if I am correct, may we ask for full particulars of the way in which the stock was managed? How often the extracting was done, &c.

IMPORTED QUEENS.

I AM much pleased that you are importing queens, but must protest against your mode of selling them. Too little attention has been paid to improving our stock; and if a man buys an inferior imported queen, his name is at first just as good as the one who has one very superior. I see no reason why they should not be graded like any other stock; then the man or men, who buy the best, will get the worth of their money, and the public will know where to look for superior queens. I am determined to have no in and in breeding and shall want an imported queen in the spring. But as I have had a beauty to work from this year, and have given the best of satisfaction. if I should get an inferior one for next year, you would soon have me in your "Humbug and Swindle" column. When I get ready to buy I shall fix my standard as to quality, and the one I buy of can fix price. I have young stocks (artificial) working in sections nicely, while some old ones, with twice as many bees, are doing nothing. Both Italians, but the young one has a queen raised from the imported mother. They work just that way every time, and how they *will* defend themselves against robbers.

H. P. SAYLES, Hartford, Wis., Sept. 7, 1877.

I agree with you exactly, friend S., but most bee-keepers prefer to do their own grading and testing. Out of a lot of 20 queens, one or two would without doubt prove superior. If I sell none but the best, what shall I do with the inferior, and what shall I charge for the superior? It takes a long while to test a queen for queen rearing, and some time as well as care and observation to test her bees as honey gatherers. One that I had pronounced all right in all these respects, my customer might not find up to his expectations, and one that I had pronounced poor, might prove equal to any. In view of all this, is it not better to let each, one do his own testing as we do with the dollar queen, and have the price but little above cost of importing? I have never seen an imported queen, that I should pronounce a really *poor* queen; and none but what produced 3 banded workers.

GLEANINGS IN BEE CULTURE.

Published Monthly,

A. I. ROOT.
EDITOR AND PROPRIETOR.

MEDINA, OHIO.

Terms: $1.00 Per Annum.
[*Including Postage.*]
For Club Rates see First Page.

MEDINA, OCT. 1, 1877.

But brother goeth to law with brother, and that before the unbelievers.—Corinthians, 6; 6.

ON and after Jan., Ist, 1878, our $30. fdn. machine, will be $35.00.

SEVERAL have feared their dollar queens were not fertile, because they did not commence laying at once. It is quite usual for them to wait several days, and perhaps a week, in the fall of the year, when no honey is coming in, but if we feed the colony a little after introducing, she should very soon commence laying. One friend was going to send a queen back after being safely introduced, because she did not lay at once.

I MENTIONED that the first smoker Mr. Bingham sent us was rather poorly made, but rather shabbily neglected to make mention of it, when he sent a sample of a most excellent one, for only $1.00. All of the three sizes he now makes, are neatly and strongly made, and are giving excellent satisfaction, so far as we have heard, and we have sold quite a number. Friend B., I beg your pardon.

MANY will, doubtless, be inclined to decide that Doolittle's locality is a very superior one, but I think such is not the case. When friend Hill told of not getting a lb. of honey in 1875, and of having to buy over two tons of sugar to feed his bees up so they would winter, I decided his locality was a very poor one, and felt glad I did not live there; but when he got 10.000 lbs. from the same apiary the very next season, I changed my mind.

THE demand for hybrid queens has been much greater than the supply. Some of our customers, said they wanted a queen of some kind, they cared little what; even a black queen would do, just to enable the colony to winter. The consequence was that every thing in the shape of queens has been gathered up, and many we have sent out are not from imported mothers, and will not produce pure drones, as per our advertisement. The mention last month of that heap of queens on our table, was I fear indiscreet; orders have poured in at a rate that swamped us nearly as badly as in July, but we are now getting ahead again except on hybrids. We have done the best we possibly could, but for all that, I wish you all to speak right out if any thing in the queen business is unsatisfactory.

I HAVE never seen a queen whose brood would not occasionally produce dark queens, especially if the cells were built during cool weather. If they are hatched in the lamp nursery, with a temperature of nearly 100°, lighter colored queens will be obtained than any I have ever seen raised in any other way; but still a dark or black one sometimes appears even then. These dark queens, if daughters of imported mothers, will often produce as yellow, and as perfectly marked workers, as any in the apiary; in short, I do not know but they are just as likely to. There seems yet, to be a perfect mania for yellow queens, and I fear some are more anxious about the color of the queens than the bees. My friends, you will certainly repent it, if you choose looks, rather than working qualities. The Albino queen, so called, has given no surplus honey, has had all her brood, and yet has scarcely enough bees to winter. I have several times tried selecting the yellowest queens, but after about three generations, they would have to be "boosted" with brood from the hybrids.

THE brood from every one of our imported queens showed distinctly the three yellow bands, but on some of them, the yellow was so dark, you would be pretty sure to call them hybrids. They are however quite distinct from hybrids in one respect, and that is gentleness. I never use smoke in handling the imported stock, and I rarely if ever get stung. When you first turn back the quilt, you would think by the color of the bees that it were best to stand back; but when you lift out the frames, not a bee moves, or makes any sign of stinging, nor do they all dive into the unsealed honey as do the blacks and hybrids at this season of the year. Among the 14 that we imported, was one that was almost all over black, or perhaps rather a dark brown and, strange to tell, her bees are the largest and yellowest of any in the lot. I should prefer her, to the Blood queen, to rear from, were it not that her queens would most likely prove dark, and then what a scolding I would get from customers. I would really like to have you take a look at these large sized yellow bees and if you care to send 10c. for cage and postage, I will send you some to look at and to show you what kind of bees a "black" imported queen produces. To have them show their full size, you should feed them well with honey after they reach you. If you would care to see some of the poorest bees—with leather colored bands, instead of yellow—that the imported stock produces, I will mail some on the same terms.

I HOPE you will forgive me if I am in the wrong, my friends, but I can not conscientiously approve of bee conventions, especially, of those held in our large cities. The expense of attending them, is more than most of us can afford, and where I have had an opportunity of looking into the matter I have invariably found enough to, I think, fully justify me in warning genuine bee-keepers to keep away from them. The bee shows of England, the records of which go a great way towards filling the pages of the *B. B. J.*, are no exception to this rule. I had intended to be silent in the matter, but some of the friends would not excuse me. Now I will tell you what I *do* approve:

Get a couple of stout horses, and a big lumber wagon, call on your nearest bee-keeping neighbor, and ask him to get in; go on in the same way to the next, and the next, then call on the most successful ones you have in your vicinity. Look over their hives, honey, bees and queens, in a pleasant and genial way, and discuss the good and bad qualities of all the different methods of doing things. You need no president. treasurer or secretary, but can make the woods ring with your merriment if you feel like it. At such meetings I usually laugh until hoarse, but I never yet knew of an unkind word being spoken of any one. It does not cost us a copper and often results in much benefit, for we often at such meetings, buy, sell, and exchange bees, queens, honey, &c. We have just made a visit to friend Shaw of Chatham, where we found him succeeding beautifully with the lamp nursery. and from the prettiest little apiary of about 75, 3 frame nuclei, we ever saw, we all went to work and picked out and caged the nicest lot of yellow queens I ever saw or heard of. I purchased all that were laying, at 90c each, just to give you my friends, a pleasant surprise. After an excellent dinner, we went with him to a swamp, where he had moved over 100 colonies; after we had overhauled the hives, seen how they were building comb as yellow as dandelions, and tasted the rich honey as yellow as gold, we took a big tramp away into the heart of the great swamp, and watched the Italians as they hummed over the rainbow hued flowers, that stood higher than our heads.

Will you my friends accept the above as an apology for my not having advised you all to attend the conventions?

BEE HUNTING. I have warned you so often, my friends, against leaving sweets of any kind about the apiary, and about being careful not to let the bees get to robbing each other, that it may seem a little queer, to be directed how best to encourage and develop this very robbing propensity, in these little friends of ours.

The only season in which we can trap bees is when they will rob briskly, at home; for when honey is to be found in the flowers in plenty, they will hardly deign to notice our bait of even honey in the comb. Before starting out, it will be policy to inform yourself of all the bees kept in the vicinity, for you might otherwise waste much time in following lines that lead into the hives of your neighbors. You should be at least a mile from any one who has a hive of bees when you commence operations, and it were safer to be two miles. I do not mean by this, to say that there are no bee trees near large apiaries, for a number have been found within a half mile of our own, and an experienced hand would have but little trouble in finding more, in all probability; but those who are just learning, would be very likely to get very much perplexed and bothered by domesticated bees mixing with the wild ones.

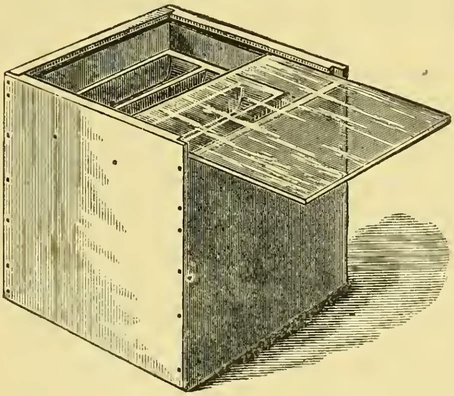
There are more bees in the woods than we perhaps have any idea of; especially, in the neighborhood of considerable apiaries. In one of my first trials at bee hunting I started a fine line, directly toward the woods, but I looked in vain, for bees, after going into them, and finally gave it up. A few days afterward, I got an old hand at the business to hunt them up for me, and he almost at once pointed out a tree plainly visible from where they were baited, standing in the open lot. As the tree contained very thick old honey, it had probably stood there unnoticed for years, and yet it was in plain sight. The same hunter, very soon found another, but a little distance from this one. And within a few days, we have found two more in that same locality. Since these two have been carried away and domesticated in our apiary, we find the Italians apparently just as thick on the wild flowers as they were before. Indicating that there are more trees in the same vicinity.

Perhaps the readiest means of getting a line started, is to catch the bees that will be found on the flowers, especially in the early part of the day. Get them to take a sip of the honey you have brought for the purpose, and they will, true to their instinctive love of gain, speed themselves home with their load, soon to return for another. To find the tree, you have only to watch and see where they go. Very simple, is it not? It certainly is on paper, but it usually involves a deal of hard work, when carried out in practice. You can get along with very simple implements, but if your time is valuable, it may pay to go out fully equipped. For instance, a small glass tumbler will answer to catch bees with, and after you have caught one, you can set the glass over a piece of honey comb. Now cover it with your handkerchief to stop his buzzing against the glass, and he will soon discover the honey, and "load up." Keep your eye on him, and as soon as he is really at work at the honey, gently raise the glass and creep away, where you may get a good view of proceedings. As soon as he takes wing, he will circle about the honey, as a young bee does in front of the hive, that he may know the spot when he comes back; for a whole "chunk" of honey, during the dry autumn days, is quite a little gold mine in his estimation. There may be a thousand or more hungry mouths to feed, away out in the forest in his leafy home, for aught we know.

If you are quick enough to keep track of his eccentric circles and oscillations, you will see that his circles become larger and larger, and that each time he comes round, he sways to one side; that is, instead of making the honey the centre of his circles, he makes it almost on one edge, so that the last few times he comes round he simply comes back after he has started home, and throws a loop, as it were, about the honey to make sure of it for the last time. Now you can be pretty sure, which way his home lies almost the very first circuit he makes, for he has his home in mind all the time, and bears more and more toward it.

If you can keep your eye on him, until he finally takes the "bee line" for home, you do pretty well, for a new hand can seldom do this. After he is out of sight, you have only to wait until he comes back, which he surely will do, if honey is scarce. Of course if his home is near by, he will get back soon; and to determine how far it is, by the length of time he is gone, brings in another very important point. The honey the bees get from the flowers, is very thin honey; in fact, rather nearer sweetened water, than honey, and if we wish a bee to load up and fly at about a natural "gait" we should give him honey diluted with water to about this consistency. Unless you do, he will not only take a great deal more time in loading up, but the thick honey is so much heavier, he will very likely stagger under the load, and make a very crooked bee line of his homeward path. Besides, he will take much more time to unload. Sometimes, they, after circling about quite a time, will stop to take breath before going home, which is apt to mislead the hunter, unless he is experienced; all this is avoided by filling your honey comb with honey and water, instead of the honey as we usually find it.

Now it takes quite a little time, to get a bee caught and started in the work, and that we may be busy, we will have several bees started at the same time; and to do this expeditiously, we will use a bee hunting box made as in the following cut.



BOX FOR BEE HUNTING.

This is simply a light box about 4¼ inches square; the bottom is left open, and the top is closed with a sheet of glass that slides easily in saw cuts made near the upper edge. About a half inch below the glass, is a small feeder, quite similar to the one we figured last month.

HOW TO USE THE HUNTING BOX.

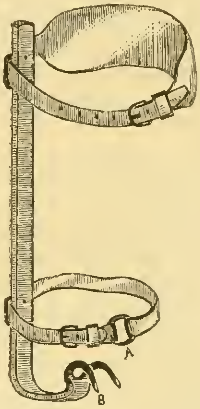
Take with your box, about a pint of diluted honey in a bottle. If you fill the bottle half full of thick honey, and then fill it up with warm water, you will have it about right. In the fall of the year, you will be more likely to find bees on the flowers, in the early part of the day. When you get on the ground, near some forest, where you suspect the presence of wild bees, pour a little of your honey into the feeder, and cautiously set the box over the first bee you find upon the flowers. As soon as the box is well over the flower, close the bottom with your hand, and he will soon buzz up against the glass. Catch as many as you wish, in the same way, and they will soon be sipping the honey. Before any have filled themselves, ready to fly, set your box on some elevated point, such as the top of a stump in an open space in the field, and draw back the glass slide. Stoop down now, and be ready to keep your eye on him, whichever way he may turn. If you keep your head low, you will be more likely to have the sky as a background. If you fail in following one, you must try the next, and as soon as you get a sure line on one, as he bears finally for home, be sure to mark it by some object that you can remember. If you are curious to know how long they are gone, you can with some white paint in a little vial, and a pencil brush, mark one of them on the back. This is quite a help where you have two or more lines working from the same bait. When a bee comes back, you will recognize him by the peculiar inquiring hum, like robbers in front of a hive where they have once had a taste of spoils. If the tree is near by, each one will bring others along in his wake, and soon your box will be humming with a throng so eager, that a further filling of the feeder from the bottle will be needed. As soon as you are pretty well satisfied in which direction they are located, you can close the glass slide and move along on the line, near to the woods. Open the box, and you will soon have them just as busy, again; mark the line, and move again, and you will very soon follow them to their home. To aid you in deciding just where they are, you can move off to one side and start a cross line. Of course the tree will be found just where these lines meet; when you get about where you think they should be, examine the trees carefully, especially all the knot holes, or any place that might allow bees to enter and find a cavity. If you place yourself so that the bees will be between you and the sun, you can see them plainly, even if they are among the highest branches. Remember you are to make a careful and minute examination of every tree, little and big, body and limbs, even if it does make your neck ache. It is a good thing to look up once in a while, just as it is a good thing to go out into the woods, and get a view of outside things generally, now and then. If you do not find them in carefully looking the trees over, go back and get your hunting box, bring it up to the spot, and give them "feed" until you get a quart or more at work. You can then see pretty clearly where they go. If you do not find them the first day, you can readily start them again almost any time, for they are very quick to start, when they have once been at work, even though it is several days afterward.

Bees are sometimes started by burning what is called a "smudge." Get some old bits of comb containing bee bread as well as honey, and burn them on a small tin plate, by setting it over a little fire. The bees will be attracted by the odor of the burning honey and comb, and if near, will sometimes come in great numbers. Oil of anise is sometimes used, to attract them by its strong odor. We have had the best success in getting them from the flowers as we have directed.

A spy glass is very convenient in finding where the bees go in, especially if the tree is very tall; even the toy spy-glasses sold for 50c. or a dollar, are sometimes quite a help. The most serviceable, however, are the achromatic glasses that cost about $3.00, and the very best thing for the purpose, is an Opera glass such as can be purchased for about $5.00. With these we can use both eyes, and the field is so broad that no time is lost in getting the glass instantly on the spot. We can, in fact, see bees with them in the tops of the tallest trees, almost as clearly as we can see them going into hives placed on the ground. They can also be used to follow a bee on the wing, as he leaves the hunting box. If one's time is valuable, an opera glass will be a very good investment.

After you have found the tree, I presume you will be in a hurry to get the bees that you know are there, and the honey that *may* be there. Do not fix your expectations too high, for you may not get a single pound of the latter. Of two trees that we have recently taken, one contained just about as much honey as we had fed them, and the other contained not one visible cell full! The former were fair hybrids, and the latter well marked Italians. If the tree is not a valuable one, and stands where timber is cheap and plenty, perhaps the easiest way may be to cut it down. This may result in a mashed up heap of ruins, with combs, honey and bees all mixed up with dirt and rubbish, or it may fall so as to strike on the limbs or small trees so as to ease its fall in such a way as to do very little injury to the hive of the forest. The chances are rather in favor of the former, and on many accounts it is safer to climb the tree and let the bee hive down with a rope. If the hollow is in the body of the tree or so situated that it cannot be cut off above and below, the combs may be taken out and let down in a pail or basket; for the brood combs, and such as contain but little honey, the basket will be rather preferable. The first thing however, will be to climb the tree, and as I should be very sorry to give any advice in my A B C book that might in any way lead to loss of life, I will at the outset, ask you not to attempt climbing, unless you are, or can be a very careful person. An old gentleman who has just been out with us, remarked that he once knew a very expert climber who took all the bees out of the trees for miles around, but was finally killed instantly, by letting his hands slip, as he was getting above a large knot in the tree. We do not wish to run any risks, where human life is at stake.

For climbing large trees, a pair of climbers are used, such as is shown in the following cut.



CLIMBERS FOR BEE HUNTERS.

The iron part, is made of a bar 18 inches long, ¾ wide by ¼ thick. At the lower end, it is bent to accommodate the foot as shown, and the spurs are made of the best steel, carefully and safely welded on. These points should be sharp, and somewhat chisel shaped, that they may be struck safely into the wood of the tree; the straps, will be readily understood by inspection. When in use, the ring A, is slipped over the spur B, and the straps are both buckeled up safely. If the tree is very large, the climber provides himself with a tough withe or whip, of some tough green bough, and bends this so it will go around the trunk, while an end is held in either hand. As he climbs upward, this is hitched up the trunk. If he keeps a sure and firm hold on this whip, and strikes his feet into the trunk firmly, he can go up the most forbidding trees, rapidly and safely. A light line, a clothes line for instance, should be tied around his waist, that he may draw up such tools as he may need. The tools needed, are a sharp axe, hatchet, saw, and an auger to bore in to see how far the hollow extends. If the bees are to be saved, the limb or tree should be cut off above the hollow, and allowed to fall. A stout rope may be then tied about the log hive, passed over some limb above, the end brought down and wrapped about a tree until the hive is cut off ready to lower. When it is down, let it stand an hour or two, or until sundown when the bees will have all found, and entered the hive. Cover the entrance with wire cloth, and take it home.

If you want only the honey, and do not care for the bees, you can slab off one side of the hollow, cut out the combs, and let them down in pails. The bees can very often be saved in this way, as well as the former. Fix the brood combs about the right distance apart, in a pail or basket; the bees will in time collect about them, and may then, toward dark, be carried safely home. Many bee hunters brimstone the bees, but I am so averse to any such method of killing bees, that I have not even the patience to describe it. Sometimes the hollow is below the limbs; in this case, the climber passes a surcingle about him, under his arms, around the tree, and in this position chops the bees out. I have said nothing about smoke or veils, for so far as my experience goes, none seems to be needed. The bees become so frightened by the chopping, that they are perfectly conquered and cease entirely, to act on the offensive. It may be well to have some smoking rotten wood near, and a bellows smoker would be very convenient to drive the bees out of the way, many times.

After you have got them down where the combs can be reached, the usual directions for transferring are to be followed. A bee-keeper who has a taste for rustic work, might set the log up in his apiary, just to show the contrast between the old style of bee-keeping, and the new. Some very interesting facts are to be picked up in bee hunting. One of the trees we cut recently, contained comb as much as a yard long, and not more than 8 inches wide in the widest part. It has been said that bees in a state of nature, select cavities best adapted to their needs. I am inclined to think this very poor reasoning. If a farmer allowed nature to take care of his corn fields, he would get a very poor crop, and from what I have seen of bee trees, I should judge the poor fellows need to be taken care of, almost as much as the corn. We frequently get 100 lbs. of comb from a hive but I never knew a bee tree to give any such amount, as the product of a single season. We sometimes find quite a quantity of honey in a tree, it is true, but it is usually old honey, and often the accumulation of several years.

DOES BEE HUNTING PAY?

If you can earn a dollar per day at some steady employment, I do not think it would, as a rule; but there are doubtles localities where an expert, would make it pay well, in the fall of the year. With the facilities we now have for rearing bees, a bee-keeper would stock an apiary much quicker by rearing the bees, than he would by bringing them home from the woods, and transferring. In the former case he would have nice straight combs, especially if he used the fdn., but the combs from the woods, would require a great amount of fussing with, and they would never be nearly as nice as those built on the fdn., even then. So much by way of discouragement. On the other hand, a ramble in the woods such as bee hunting furnishes, is one of the most healthful forms of recreation, that I know of; and it gives one a chance to study, not only the habits of the bees, but the flowers as well, for in hunting for a bee to start with, we find many plants that are curious and many that we would not otherwise know they frequented. In our recent trips, we were astonished to find the Simpson honey plant of which so much has been said in our Journals recently, growing in our own neighborhood, and we saw the bees drinking the sweet water out of the little hollow balls, or rather pitcher shaped blossoms. Again, climbing and taking the bees out of one of the monarchs of the forest, is really one of the fine arts, if done safely; and I feel like taking off my hat in deference to the one who does the work nicely, something as I would to a renowned doctor or lawyer, or an expert mechanic.

NEVER QUARREL ABOUT BEE TREES.

When you have found your tree, go at once to the owner of the land, and get permission to get your bees. No matter what the law allows, do nothing in his absence, you would not do if he were standing by, and do your work with as clear a conscience as you would work in your own bee yard. Many quarrels and disagreements and much hard feeling, has been engendered by cutting bee trees. If I am correctly informed, bees are the property of whoever finds them first; and on this account it is customary to cut the initials of the finder, with the date, in the body of the tree; but you have no more right to cut the owner's timber without permission than you have to cut his corn.

I have never found any one inclined to be at all difficult, when they were politely *asked* for permission to get our bees out of the the trees. I do not wonder that people feel cross when their timber is mutilated by roving idlers, and I can scarcely blame them for giving a wholesome lesson now and then just to remind us that we have laws in our country for their protection. I hope my readers will have no disposition to trespass on the premises or rights of any one, without permission. The most difficult and particular person in your neighborhood, will in all probability, be found pleasant and accommodating, if you go to him in a pleasant and neighborly way.

B.

BARRELS. I would hardly advise using barrels for comb honey, although it is done to some extent I believe, in districts where the old style of keeping bees in log gums, prevails; but for liquid honey, we shall probably never find a cheaper receptacle that will stand the rough usage of shipping honey, as well. It is true, we can put our honey in tin cans, but these are more expensive—the very cheapest, costing at least one cent for every pound of honey they will contain— and they cannot be shipped safely, without first being crated. Besides all this, a barrel of honey will be received at a much lower rate of freight, than any other kind of package it is possible to make. If we are then all decided as to the expediency of storing our honey in barrels, we wish to decide upon the most profitable size for these barrels. The regular size of about 31 or 32 gallons, is probably the cheapest size, but it has been objected to on account of the difficulty of handling so great a weight as 350 to 400 lbs., which the barrel and all would weigh. This however is no great objection to one who knows how to "take the advantage" of a barrel, as my father used to express it to "us boys," when we were loading stone, and as economy of money as well as "traps," is quite an item where we have tons of honey, I think we had better have large barrels principally. For the accommodation of customers who want a smaller quantity, it may be well to have some half barrels also, but these will cost considerably more, in proportion to the amount of honey they hold. Some very neat small ones, holding about 140 lbs, cost about $1.75 each; this would be at the rate of 1¼c. per lb. Our large barrels cost us $2.25, and hold about 350 lbs; this is less than ⅔c. per lb for the package. From this it appears that we shall have to charge a little more for honey put up in half barrel packages.

LEAKY BARRELS.

I hope you will feel as I do about it, that it is bad enough to talk about having honey leak all round, without having any practical experience in the matter; and I am very glad to be able to tell you how to entirely avoid it. It may be well to remark that honey has a funny way of expanding during the candying process,—it will generally candy as soon as the weather gets cold—and if your barrels or cans do not give it room to expand, it will be pretty sure to push out the corks or bungs. Some kinds of honey, expand more than others, and under some circumstances, perfectly ripened honey, will scarcely candy at all. If the barrels are left not quite full, and then filled up completely when ready to ship, there will be very little trouble.

We prefer barrels made of sound oak, but I presume those made of other strong wood will answer, if carefully waxed as we shall direct. The hoops should be of strong hoop iron, for honey is very heavy compared with most other liquids, and we wish them to stand safely the rough handling they are likely to recieve on the cars, even if they should be sent back and forth several times. The hoops should be secured by large tacks, if they show any tendency to slip. If you have had the barrels made for your own use and intend them to be returned when you sell honey, it is a very good idea to have them neatly painted. This will keep the hoops in place, and will preserve the barrels very materially. There is one objection to this, however, and that is you are many times under the necessity of waiting for your barrels to be emptied, and then they are likely to be forgotten. We once waited 2 years for some we had sent away with honey, and then succeeded in getting the pay for them instead of the barrels, after much importunity.

WAXING THE BARRELS TO PREVENT LEAKING.

A good barrel carefully made of well seasoned timber, *should not* leak, without any waxing, but as they often do, we think it safest to have them all waxed. This is simply coating the entire inside with wax or paraffine. The latter we consider better, as well as cheaper. Wax is worth from 30 to 35c. per lb, but the paraffine can be had for 20c. As the latter melts at a lower temperature, and is more limpid when melted, a much less quantity is needed to coat the inside thoroughly and fill all cracks and interstices, and less skill and expedition is needed in its manipulation. You should have about a gallon of the melted liquid, or too much of it will adhere to the inside of the barrel, for a small quantity will not keep hot until you can pour out the remainder after the waxing is done. Ten or 12 lbs. will do very well. Have your bungs all nicely fitted, and have a good hammer in readiness to get the bung out quickly. With a large-mouthed tunnel, pour in the hot liquid, and bung it up at once. Now roll the barrel so as to have the wax go entirely round it, then twirl it on each head, and give it another spinning so as to cover perfectly all round the chime. This operation will have warmed the air inside to such an extent, that the liquid will be forced into every crevice, and if there is a poor spot, you will hear the air hissing, as it forces the liquid through it. Just as quickly as you get the inside covered, loosen the bung with your hammer, and if your work is well done, the bung will be thrown into the air with a report. Pour out the remaining liquid, warm it up, and go on with the rest. If the weather is cool, you had better put your barrel in the sun, turning it frequently and driving down the hoops, before you pour in the wax. This is to save your material, for if the barrel is cold, it will take a much heavier coating; and the main thing is simply to close all crevices. For honey in quantities of less than 100 lbs. perhaps tin cans will be handier than barrels or kegs, for they can then be shipped as freight, without crating.

Good thick honey will usually become solid at the approach of frosty weather, and perhaps the readiest means of getting it out of the barrel in such cases, is to remove one of the heads, and take it out with a scoop. If it is quite hard, you may at first think it quite difficult to get a scoop down into it; but if you press steadily, and keep moving the scoop slightly, you will soon get down its whole depth. If the barrel is kept for some time near the stove, or in a very warm room, the honey will become liquid enough to be drawn out through a large sized honey gate. After the head of a barrel has been taken out, the barrel should be waxed again before using, around the head that has been removed. Get out all the honey you can, by warming and allowing it to drain, and then with a tea-kettle of hot water, clean off every particle of honey. The rinsings may be saved and fed to the bees that there be no waste. As barrels are apt to get musty, or give the honey a taste, I would advise washing and lightly coating them every season, before being used again. After having been once coated, a very small quantity of paraffine will answer perfectly, the second time. I should have no hesitation in using any kind of a barrel for honey, if it were first scalded, allowed to dry thoroughly, and then perfectly coated with paraffine. If the barrel is dry and warm, or slightly hot, there will never be any danger of its cleaving from the wood, as wax sometimes does. Paraffine has neither taste nor smell, and does not decay as wax does, when exposed to dampness or the action of liquids.

Caution:—A mixture of wax and rosin was at one time used for coating barrels, and after giving it, as I thought a thorough test, I used it for a whole crop of honey. The result was that the honey tasted of rosin after being in the barrels over winter, and it was sold at 10c, when it would otherwise have brought 15c. This is quite a serious matter, as some of the Journals seem to be still recommending the rosin.

BASSWOOD. With perhaps the single exception of white clover, the basswood, or linden as it is often called, furnishes more honey than any other one plant or tree known. It is true, that it does not yield honey every season, but what plant or tree does? It occasionally gives us such an immense flood of honey, that we can afford to wait a season or two if need be, rather than depend on sources that yield more regularly, yet in much smaller amounts. If a bee-keeper is content to wait, say ten or fifteen years for the realization of his hopes, or if he has an interest in providing for the bee-keepers of a future generation, it will pay him to plant basswoods. A tree that was set out just about 10 years ago, on one of our streets, now furnishes a profusion of blossoms, almost every year, and from the way the bees work on them, I should judge it furnished considerable honey. A hundred such trees in the vicinity of an apiary, would be, without doubt, of great value. See ARTIFICIAL PASTURAGE. Our 4000 trees were planted in the spring of 1872, and are now—1877—many of them bearing fair loads of blossoms. We made some experiments with basswood seeds, but they proved mostly failures, as have nearly all similar ones we have heard from. By far the best and cheapest way, is to get small trees from the forest. These can be obtained in almost any quantity, from any piece of woodland from which stock have been excluded. Cattle feed upon the young basswoods with great avidity, and pasturing our woodlands is eventually going to cut short the young growth of these trees from our forests, as well as many others that are valuable. We planted trees all the way from one to ten feet in height. The larger ones have as a general rule done best.

Basswood, and perhaps most other forest trees, require shade, especially when young; and much to our surprise, some that were planted directly under some large white oak trees, have done better than any of the rest. Who has not noticed exceedingly thrifty basswoods growing in the midst of a clump of briars and bushes of all sorts? I would place the trees not more than 12 feet apart, for it is an easy matter to thin them out whenever they are found too close. A neighbor has planted basswoods entirely round his farm on the road sides, and they add much to the comfort of travelers, are pretty to the sight, and will without doubt, furnish honey enough, in time, to pay all expenses.

The best yield of honey we have ever had from a single hive, in one day, was from the basswood bloom; the amount was 43 lbs in three days. The best we ever recorded from clover, was 10 lbs in one day. The honey from the basswood has a strong aromatic, or mint flavor, and we can tell when the blossoms are out, by the perfume about the hives. The taste of the honey also indicates to the apiarist the very day the bees commence work on it. The honey, if extracted before it is sealed over, when it is coming in rapidly, has the distinctive flavor so strong as to be very disagreeable to some persons. My wife likens it to the smell and taste of turpentine or camphor, and very much dislikes it, when just gathered, but when sealed over and fully ripened in the hive, she thinks it delicious, as does almost every person.

APHIDES. It is with the class of these insects that produce honey, (or rather a sweetish substance that bees collect and store as honey) that we have to do. They are a kind of plant lice, that are to be seen in almost all localities, and during nearly all the summer and fall months, if we only keep our eyes about us, and notice them when they are right before us. If you examine the leaves of almost any green tree, you will find them peopled by small insects, almost the color of the leaves on which they live; while some are quite large, others are almost or quite invisible to the naked eye. Now all these bits of animated nature, while they feed on the green foliage, are almost incessantly emitting a sort of liquid excrement, and as this is usually thrown some distance from the insect, it often falls from the leaves of the tree, like dew. If this matter is new to you I would ask you to examine the stone pavements early in the morning, under almost any green tree; an apple or willow will be pretty sure to show spots of moisture, something as if water or rain had been sprinkled over it in a fine spray. The leaves of the trees will also be found somewhat sticky where the exudation is sufficient to make it noticeable.

This substance is I believe, not always sweet to the taste, but usually so. The quantity is often so small, as to be unnoticed by the bees, but occasionally, they will seem quite busy licking it up. I have several times found them at work on the leaves of our apple trees very early in the morning, but never to such an extent that it might really be called honey dew. I have seen them also on a willow fence making a humming like a buckwheat field, and at the same time, the ground under the trees looked as if molasses had been sprinkled about. The bees were at work on the ground also; the honey tasted much like cheap molasses. The strange part of the matter was that this occurred during a warm day late in the month of Oct.; it proceeded entirely from the aphides, for they literally covered the leaves of the willow, and could be seen plainly, ejecting the sweet liquid, while they fed on the leaves. This was plainly the cause of the honey dew in this case, but it is by no means clear, that such is always the case. See HONEY DEW.

ASTERS. Under this head, we have a large class of autumn flowers, most of which are honey bearing; they may be distinguished from the helianthus, or artichoke and sunflower family, by the color of the ray flowers. The ray flowers are the outer colored leaves of the flower, which stand out like rays; in fact, the word aster means star, because these ray flowers stand out like the rays of a star. Many of the yellow autumn flowers are called asters, but this is an error, for the asters are never yellow, except in the centre. The outside, or rays, are blue, purple or white. You may frequently find a half dozen different varieties growing almost side by side. Where there are acres of them so to speak, they sometimes yield considerable honey, but some seasons they seem to be unnoticed by the bees. I do not think it will pay to attempt to cultivate them for honey; better move your bees to where they grow naturally, when you have determined by moving a single hive first, as a test, whether they are yielding honey in paying quantities.

Where the asters and golden rod abound largely, it may be best to defer feeding until these plants have ceased to yield honey; say the last of Sept.

There are 2398 of you this 28th day of Oct.

Agravating: To have sold a hybrid queen, and then can not find the "jade."

The yellow Italians, are making every thing roar, on the fall asters which have just come out; and, by the way, some of them are making things lively around the houses where the women are canning peaches.

Our neighbors Dean, and Blakeslee, have been feeding extracted honey to get their unfinished section boxes ready for market. The liquid honey costs 10c. by the barrel, and the sections bring 25c. To "cipher" out this matter, I put a one-story hive on a pair of scales, removed all the combs but the 5 containg brood, and put in their place 24 sections, put on an upper story, and set a pan containing 24 lbs, of thick liquid honey right over them, spreading on cheese cloth to prevent drowning. In four days the honey was out of the pan; and how much do you suppose the scales had gone down? None to be perceived, but they have now been two days at work sealing the honey, and have lost ¼ lb. The sections contained comb built out full length, but most of the honey was found in the 5 brood combs, and the queen very much cramped for room.

Latest intelligence "from the seat of war;—" The candy slab inside of an L frame, was all taken out by a moderate colony in less than 2 weeks, so that not a crumb of candy was to be found anywhere. A large amount of brood was started, and the plan of feeding seems to possess all the good qualities of liquid food, with no trouble whatever, except hanging the frame in the hive. The grape sugar has been received, and it not only looks very much like the candy, but *our* bees work on it just as it comes from the factory, without any admixture of honey at all. The Italians take it much faster than the hybrids, and what seems to me astonishing, is that lumps laid in front of the hives, will be all used up *right in the middle* of the day, without a robber coming near. I presume it is because the blacks and hybrids are too lazy to bring water to moisten it with. Some colonies have taken a lb. a day from a lump laid over the frames under the quilt,

I have not yet tried mixing flour with it, but have visions of rye flour at 1½c., mixed with grape sugar at 3½, making a candy for—perhaps we had better hold on until we are sure it is good for wintering. I will give the matter a thorough test just as fast as I can.

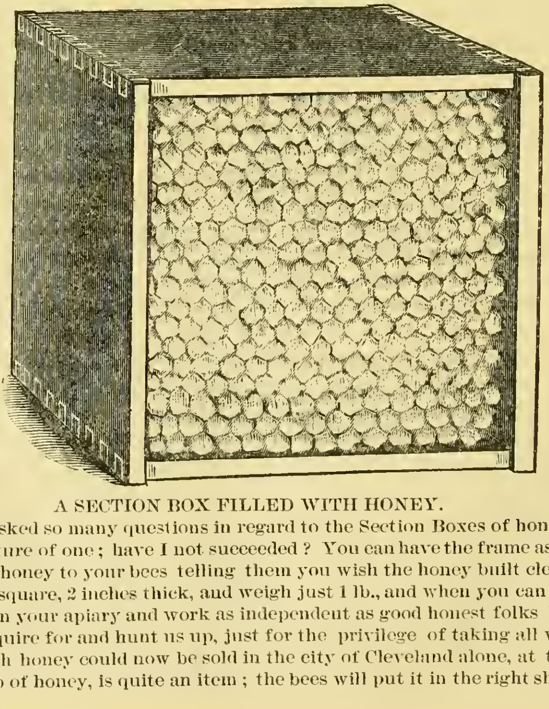
PRICE LIST OF QUEENS.

Imported queens will be $6.00, if I select the best to fill your order, or $5.00, if I select the poorest. What I mean by best, is those which are largest and lightest in color, that produce the largest and yellowest bees, and are the most prolific layers. It takes a long time to test a queen for honey gathering, and therefore it would be nothing strange, if those sent out at the lesser price, are really most valuable.

Tested Queens reared from Imported mothers having all the above good qualities, $3.; with part of the above good qualities, $2.50, and the poorest, that I feel sure are not hybrids, $1.50. Now I am going to try to have the above satisfactory, and if they are not, you are to send them back, inside of 40 days and get your money or another queen, as you choose.

Young queens just commencing to lay, will be sold for $1., if you come and get them; if you want them sent by mail, send us 10c, for cage and postage.

Queens that have been tested and "found wanting," will be sold for 50c. I also reserve the privilege of sending out any kind of a queen that I do not like, as a 50c. queen. I have made the above conditions that I may be enabled to "pick out" queens to order, without doing any of you an injustice. The dollar queens, are always taken just as they come. If any of you can furnish them cheaper, I will rejoice with the rest.



A SECTION BOX FILLED WITH HONEY.

Some of you have asked so many questions in regard to the Section Boxes of honey, I thought I would give you a real good picture of one; have I not succeeded? You can have the frame as a model to work from, and you may show the honey to your bees telling them you wish the honey built clear up to the wood, like this one. They are 4¼ square, 2 inches thick, and weigh just 1 lb., and when you can produce packages like the above, you can sit in your apiary and work as independent as good honest folks like we are (?) ought to be, while customers inquire for and hunt us up, just for the privilege of taking all we can raise, at 25c. per lb. Several tons of such honey could now be sold in the city of Cleveland alone, at the above price. From 3 to 5c. per lb. on a crop of honey, is quite an item; the bees will put it in the right shape just as well as any.

INTRODUCING QUEENS.

THE queen sent me before, arrived in due time and in good shape. I immediately deprived a swarm in an American hive, of their queen, and in 24 hours afterward tried to introduce the new queen. They rejected her vigorously. I kept the queen cells destroyed and tried to get them to accept her each day, for *ten* consecutive days, and they rejected her as stubbornly the last day as they did the first. I employed sweetened water and peppermint and smoke, but to no purpose. When caged, I kept the queen in the hive sometimes on the frames, but most of the time in a wirecloth tube inserted between the combs. On morning of the eleventh day I found her dead in the cage. I then offered them their old queen, which I had preserved in a nucleus. They seemed glad to see her and on examination the next day found her laying and every thing apparently all right. To day I find them queenless and with no unsealed brood. You will please send me another queen by mail for the $1,10 enclosed, with as little delay as possible. The Simplicity hive suits me better than any hive I have yet seen.

JAMES R WALKER, Forest City, Illinois.

Cases like the above will occasionally occur, and I know of no better way than to keep trying as you did; but I would be very careful that the queen had plenty of food all this time. If there is food in the cage, where the outside bees cannot reach it, I should expect her to live safely a couple of weeks or more. I have never lost a queen in the candy cages in a hive, and I have had them caged a long time. If you remove all their queen cells, after their brood is all sealed up, they will usually receive a queen, but when they get so determined as in the case you mention, they will sometimes kill every queen offered them. In such cases, it does them good to take all their combs away, and leave them until they are humbled by hunger; then feed them liberally, and release the queen among them. When they seem to be all right, give them back their combs. Such cases usually occur in the fall, after the honey yield has ceased, and generally when they are rather short of honey. Feeding regularly for several days before the queen is given them, will often get them into a friendly mood, if they can be free from the annoyance of robbers.

Two or three have reported losses because they did not follow, in full, the directions I gave in the A B C, especially in regard to looking into the hive 20 or 30 minutes after the queen is released. They waited a half day, and then found her dead in a knot of bees, while if they had looked at the time mentioned, they could have rescued her unharmed. No matter how well a queen is received at first, you should take a second look at her, after she has had time to make a complete promenade of the hive.

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ANOTHER discovery:—If queen cells are built on a new sheet of fdn. (a matter that can easily be secured by putting a sheet in a hive until eggs are deposited in it, and then putting it in a queenless colony) we can pick the cells, when ripe, from the sheet without mutilating either the cell or the comb. Well, if you put the cells in a lamp nursery as soon as they are sealed, they will remain so transparent that you can see the queen all the time, when the comb is held between you and the sun; and now comes the beauty of the whole matter. About 3 hours before the queen bites her way out, she begins to move: keep the temperature full up to 100 and as fast as you discover queens moving, pick off the cells and lay them over the cluster of bees between two combs. If the bees do tear the cell down, they have a live queen, and if they do not, she is sure to hatch in 3 or 4 hours. In either case there is no delay, and the queen to be removed, is kept laying in the hive until the last minute.

Heads of Grain,

From Different Fields.

THE tested queen you sent me, I introduced Aug. 5th, and she commenced to lay at once—result—the black bees have disappeared as if by magic, and in their stead I have a fine stock of uniformly three banded bees of great size. I thought some time ago that my bees were not doing anything with the fdn., but upon examination since, I fairly shouted, in good old Methodist style, to find more than one sheet built out, and full of young brood, capped and as "heavy as lead."

J. H. BLAIN.

Mt. Sterling, Ohio, Sept. 10th, '77.

Smoker rec'd to-day, used it in removing boxes and fire did not go out; think I shall like it very much. Queen received of you a few days ago is laying nicely.

M. SHUCK, Des Moines, Iowa, Sept. 14, '77.

In "Notes and Queries," Sept. No. of GLEANINGS "P." asks how he can cool bees-wax in large cakes without its cracking. I have caked wax in six quart milk pans without its cracking, by covering the pans to keep it from cooling rapidly on the top.

Wasn't Chinese Wistaria advertised a couple of years ago, as a honey producing, climbing vine?

EDGAR SAGER, Hudson, Ills., Sept. 12th, '77.

Wistaria produces pollen only; see page 58, Vol. III.

SWEET CLOVER.

We have had a very poor honey season and I did expect to go into "Blasted Hopes" this fall, but I see now that I will get to the other side. We had a rain the last of Aug. and there is now a great flow of honey, for I find one hive has made 40 lbs. in 10 days in section boxes and another little less; they are rolling in honey now. No swarms this season. I have raised sweet clover for 8 years, and find it the best honey plant here about; it blooms from May to Nov. I have some 9 feet in height, in bloom, and black with bees all day. Cultivate the same as corn.

ALEX. FIDDES, Centralia, Ills., Sept. 7th, 1877.

I have tried to use fdn. in places where I have cut out pieces of drone comb, but have found it next to impossible to keep it straight, as it appears to me, it must be put in nearly the size of the openings and then it will bulge. I use the two story Langstroth and after considerable attention, had succeeded in getting nearly all worker comb in the lower story. Having spare combs for the upper story, I expected this season, to have got along well, but the queens, with very few exceptions, would persist in laying in the upper story and it kept me busy fighting against drone brood, instead of extracting. Doolittle says, "Keep her eggs out of the combs we extract from"—but how? The British bee-keepers, I observe use perforated zinc, for this purpose, as it would appear with good result.

The early part of the season, was good, but since the middle of July bees have done little more than supply their wants.

BRIAR.

Fitzroy Harbor, Ontario, Canada, Aug. 31st, '77.

If you attach your fdn. only at the upper edge, you will have no bulging. As it is quite a task to cut out and replace the drone comb, we have decided to melt them up, and make new comb of fdn.; the great amount of wax in many of the old combs, will more than pay for a nice new comb. We have had very little trouble with the queen laying in the upper story in drone comb, if the combs are spread so far apart that the cells are made very deep. This makes the labor of extracting very much less, and also the labor of the bees, for if you get combs for the extractor twice the ordinary thickness, you save half the labor of capping, and yourself half the labor of uncapping. The perforated separators, or even the common tin separators we use for sections, would without doubt keep the queen from going above, but we should consider them unnecessary machinery.

Began in the spring with 29 stocks; increased to 47 and took 250 lbs. extracted and 1000 lbs. comb honey. The comb honey is in the section boxes, which I like very much. I use the 8 frame Langstroth hive. The season was good in June and July, but too wet in May and too dry in August. Bees, one-half Italian and one-half hybrid. The hybrids did best until the drouth came on, then the Italians came to the front.

The extractor you sent me suits to a T. I think it fills the bill exactly.

The country here has been settled about 20 years, and this is the first year during which white clover has grown in sufficient quantity to help the bees much, but it helped wonderfully this year. Our honey is obtained mostly from fruit blossoms, white clover, basswood, buckwheat, and the prairie flowers. Three cheers for GLEANINGS and a "*tiger*" for "*Our Homes.*" J. F. SPAULDING.

Charles City, Iowa, Sept. 4th, 1877.

A gentleman, who has some bees, has been very kind to me and I would like to give him one of your honey knives for a present. I enclose a dollar.

JOHN WM. ANDREWS.

Hermitage Landing, La., Aug. 21st, 1877.

There! Is not that the right sentiment? I do not mean that you should give every body honey knives, but it would be a fine thing if we all made a practice of remembering the kindnesses done us, in the same substantial and neighborly way. It is a pleasant thing to help those about us, and it is also pleasant to feel that our efforts have been appreciated and remembered.

The day that I sent for the hive my bees commenced dying; we think it the cholera. The bees come out of the gum on a run as if they were going to fly, but they can't rise, and fall to the ground dead. My brother caught a swarm of hybrids in June, and in putting them in the hive he killed the queen. It was a small swarm and dwindled away, but there were young bees in the comb, full grown. Now, where did the eggs that hatched the young bees, come from? My Italians are piled all over the hive; how would it do to brush them off into another hive and get a queen for them?

BYRON RIGGS, Turman's Creek, Pa.

I can think of no other reason for your bees dying than that they are out of honey and starving; they sometimes crawl out of the hive in the way you mention, under such circumstances. Your brother, doubtless, hived an after swarm that contained two or more queens, and only killed one of them. You can make a colony by brushing off the loafing bees and giving them a queen, but you will have to give them a comb of brood to make them stay contentedly; and if no honey is coming in, you would have to furnish combs or fdn., and feed.

BEES KILLING YOUNG WORKERS, COLOR OF DRONES.

Will you please tell me what is the trouble with my bees. One swarm is killing their young bees as fast as they hatch. They kill and drive them out just as they do the drones. They have plenty of honey in the hive; they storod 90 lbs. in sections. How can you tell pure drones? I have two Italian queens, one from Nellis the other from Alley; the drones are not alike. The queen from Alley has drones with three yellow bands with spots of yellow on the fourth ring; the queen from Nellis hatches drones with one yellow band and spots of yellow. Why the difference in the drones, if the queens are pure? The workers show the marks of purity. If these queens were bred from imported mothers and purely fertilized, why are they not as good as imported to raise queens from?

E. A. ROBINSON, Exeter, Maine, Sept. 10th, '77.

I cannot tell why your bees kill the workers, having never met a case of the kind, although several cases such as yours have been mentioned. Are you sure more dead bees are brought out than are usually seen at the entrance, very early in the morning, because they are in some way imperfect? You can tell little or nothing in regard to the purity of a queen, by the color of the drones or queens; they vary in color and markings, greatly. Your queens may be just as good as imported stock direct, but it seems to be the general opinion that the best honey gatherers, are those from freshly imported stock; at any rate, we have much better and hardier bees now, than when we relied on home bred mothers, and carefully selected the yellowest stock.

I opened the nucleus this morning and found imported queen all right. Just 20 dead bees in the hive. The packing could not be better, so far as I can see. Thanks for promptness. E. M. HAYHURST.

Kansas City, Mo., Sept. 8th, 1877.

Progeny of $1.00 queen is out—finely marked.

D. H. TWEEDY, Smithfield, O., Sept. 12th, '77.

We are glad to hear your queen pleases, for not all of the dollar queens produce pure workers. The black bees are nearly all out of our neighborhood, but there are many hybrids, and we are endeavoring to get rid of these too, by offering them at 50c each. It is true, their drones are pure, but such stocks frequently swarm or replace their queens, in which case we should have hybrid drones, and most likely in great abundance. On this account I would advise all who think of rearing queens for sale, to replace all hybrids before any drones can be raised. If you are raising honey only, I think the hybrids will *in some cases*, produce even more than the full blooods.

WINTERING.

I use the 8 frame L. hive, tight bottom with entrance blocks and portico. Have ten colonies of Italians. This is my second year's experience keeping bees, and I naturally dread the winter, as I lost all last winter. I think of packing them, side by side, about a foot apart in a crib of chaff. Shall I close the entrance, and bore a $\frac{3}{4}$ hole in front? If so how near the top, shall I raise the rear end of the hive and how much? My hives are same depth as yours.

I think of packing them some warm day in Oct. Shall I extract from one or two center combs if they are full of honey then? Shall I put in tin or zinc thimbles to prevent the bees filling the holes in the combs? Will you tell us about some of these things in the October No.?

Sample section box rec'd. I don't see how you can *saw* them so smoth. The fdn, enticed the bees into the boxes instantly. G.W.HAVEN.

Bloomingdale, Mich., Sept 8th 1877.

If I were going to have an auger hole for winter entrance, I would have it about half way up the front; but my friend, if you have your bees packed in chaff, and in such close quarters that they completely fill their wintering cavity, so that they are crowded out at the entrance except during cool weather, you can let them have their usual summer entrance and can omit all winter entrances and all such fussing, for the bees can go around their combs as well in winter as in summer. I would not raise the rear end of the hive, unless it was because the roof might leak otherwise, as many of the old style L. hives will do. I would not use the metal thimbles, and very much doubt the utility of holes in the combs at all. When your bees get over to one side of the hive and cannot get back, it is because their wintering apartment is much too large for the colony. If you move your bees into a crib, you will lose bees when moving, both in the fall and spring. Besides, your bees will be very apt to mix up and rob, after being changed about in this way. Fix up a good nice summer stand for them, grape vines for shade, &c., and leave them there *always*.

GLEANINGS is all right, but notwithstanding we have 15 bee-keepers in and around our town, I know of but one besides myself who takes a Bee Journal. I could lend GLEANINGS all over our town and county but can't get any of them to invest. Don't you think they will prosper? P. GRAHAM, Johnstown, Pa.

Your people are by no means peculiar, friend G., and instead of censuring them too much I would accommodate them all I could consistly, and trust to their coming out on the right side, when they have sufficient evidence. Our best people, are often slow in adopting new ideas. You know there is an opposite extreme, of investing in everything that comes along.

Bees are gathering honey very fast now, from *honey dew* and sumach. C. POOL.
Carthage, Mo., July 30th, 1877.

What plan would best prevent bees from building comb across, from the comb of one frame to the comb of another; and also prevent them from building comb on the top of the frames?
ROBERT A. BOLING, Perrysville, O., June 22, '77.

The first part of your question seems to come under the head of straight combs, and this subject has been fully discussed in our back numbers, the fdn., finally setting the matter at rest, for all time to come, I trust. We have found nothing so good as the sheet of duck, to keep the bees off the top bars, and if it is pressed down close to the top bars of the frames, every time the hive is closed, there will be no combs built above the frames. As the bees sometimes get a habit of pushing up under the duck, it may be well to keep the chaff cushion on it. This should always be done in cool weather, but for convenience, it may be omitted during the summer months.

Like a woman, I leave the best of my letter for the last, and that is, that I transferred to-day, and so far the success seems perfect. It is worth a line more (from one of your disciples) to say if my transfer "*sticks*," I shall have *made* an additional colony of of fine black bees—about a peck—for one of my neighbors, hearing of my intention, *dared* me to try the experiment on an old round log gum of his, which he intended to kill in order to rob. I got an abundance of brood comb and a little with sealed honey for the frames. The whole lower story is full of them and I will give them another as soon as the queen arrives and all gets quieted. LAWRENCE JOHNSON.
Holly Springs, Miss., July 13th, 1877.

In using your frames for box honey this summer, didn't the queen ever deposit eggs in any of the cells, nor the bees deposit bee bread in them? If I were certain that they would not do so I would either sell my boxes (for half price if need be) or split them up, and buy the ones you make. I believe if the queen will let them alone and the bees put no bee bread in them, they are destined to become THE honey box.

Couldn't they be made by using the material for fruit boxes? It is lighter, and my customers don't want to pay for much wood. W. S. BOYD.
Bethany, O., August 30th, 1877.

I have never seen nor heard of a single cell of brood or pollen in section boxes, when the separators were used. A neighbor who used them without the separators, had some filled with brood. The veneer that berry boxes are made of, has been many times suggested, and has been used. but it can not be made to make as neat and strong a box; more than all, I do not know how the veneer boxes can be made as cheaply, if we include the groove for holding the fdn.

The season continues poor all the way through; buckwheat did very well for a few days. Shan't average more than two 50 lb. crates to the hive this season, and have made no more increase than usual. We consider it the poorest season since '71. Fifteen miles north of here I understand that friend Dickinson has had an extra good crop of nice honey. I had sown an extra quantity of white and alsike that came into bloom, and thought I never had better pasture; still we failed to get the honey. My bees were bred up early, and I credit these two points with what I did get. J. P. MOORE.
Binghampton, N. Y., Aug. 30th, 1877.

Well it really is *too* bad friend M., if you only got 100 lbs. of comb honey to the colony. I am sure we all feel "awful" sorry for you. By the way, you don't say how many colonies. Why is it that you folks who always get such large yields per hive, do not keep a greater number? Is it on account of overstocking or because you could not give a large number the same care?

My bees do not work on borage, rape, nor mignonette; what is the reason? I have a plant called by us, motherwort, that beats anything I ever tried.
WM. ST. MARTZ, Moonshine, Ills., July 31, '77.

Almost all honey bearing plants are at times neglected by the bees, and a plant that seems a great success one season, may be entirely unnoticed the next. Motherwort is a near relative of catnip, and is almost always visited by bees when it is in bloom. It would be very interesting to test a large field of it.

CROSS BEES AND THE REMEDY.

My bees are so very cross that they will attack me frequently when I am at the distance of 30 yards from the hives. They are blacks and hybrids. Bees have not done well here this season, but are now gathering some honey. I shall sell them all this season, if I can get $6 00 per colony, and pay you your price, for a colony of Italians next season. J. G. WARNER.
Butler, Mo., August 4th, 1877.

But would not that be a very expensive way, friend W.? Dollar queens would fix them all, in a very short time, and tested queens, would make a sure thing of it the first time. Do not expect too much in the way of gentleness, for even pure Italians are sometimes very cross, when the honey crop has just failed. If you select the gentlest bees, you are very apt to get those of less value as honey gatherers.

The section boxes and packing case in the August No. of GLEANINGS made me open my eyes, and they put a little more common sense into my head, in the way of "bee culture." When you sent me the sample of section box, not long since, I didn't know what you meant by it; thought at first it was a small *honey box.* So when you sent me the August No. I saw your packing case, &c., and understood what you meant by section boxes; and now I can work the problem. You somewhat surprised me, when you sent me the Aug. No. of GLEANINGS for 4c; it not only made me think you an honest man, but led me to conclude you were more willing to help others, than they to help you.
HENRY BAKER, Atlanta, Ga., Sept. 1, 1877.

The above illustrates the value of engravings. People have hardly time to study out a prosy description, who would take the whole matter in at a single glance, were it pictured out plainly. You give us more credit than we deserve, friend B. In our attempts to answer all the questions sent us, we give away thousands of copies of GLEANINGS, and most of the time, do not get even *one* cent. Every sample copy, contains a price list of the goods we have for sale, and this way of advertising, enables us to disseminate information to great multitudes without being under the necessity of asking them for any pay, unless they become regular subscribers.

By to-day's mail I send you a specimen of two winged fly that seems to like bees for a diet. I have seen three of them with honey bees, a friend saw one with a bumble bee, and I saw one with a grass hopper. They seem to suck the juice from them. I would like to know its name. V. W. Keeney.
Shirland, Ills., Aug. 22d, 1877.

The fly referred to is the *Asilus Missouriensis*, the same mentioned on page 49 of "Manual of the Apiary." These flies are very strong, fierce and voracious. I once saw one of an allied species attack and whip a tiger beetle, both of which I then took with my net, and have them framed in our College museum just as I took them. I know of no way to fight them successfully. I doubt if they will ever be numerous enough to do serious harm, and besides, they do much good in killing insect enemies which will serve as a partial offset to their evil work. A. J. Cook.
Lansing, Mich., Aug. 8th, 1877.

If you wish your bees to be sure to die, during the coming winter, I know of no better way than to do as this fellow does. He says :

"'I'm sitting sadly on the strand that stretches to the water's brink, and as the day slips slowly by, I idly fold my hands and think.' Whilst he is sitting on the strand with idly folded hands, his family at home may be suffering for the necessaries of life. He should skirmish around, before the day slips slowly by, and secure a job at digging a cellar."

WINTERING IN THE SOUTH.

I see in Gleanings, page 204, that you say the bees in the *Southern States* die in winter the same way as in the North. I think you might have added—when bees require wintering in cellars or houses; as I never knew a colony of bees to perish or dwindle down to nothing in this latitude, and all the bees here are left on their summer stand, without any protection whatever, just as they stood all summer.
Paul L. Viallon, Bayou Goula, La., Aug. 28, '77.

I did not mean to say they always dwindled, for they do not even here; but reports have been given in our back No's, of much the same malady in winter and spring, that we have had in the Northern States. Of late, we too, have been much less troubled with it.

Our fall crop of honey bids fair to be the largest for many years. I attribute it to a stock law recently passed in this county. I noticed many flowers blossoming that were formerly kept down by cattle roaming at large. A. X. Illinski.
St. Clare, Ills., Aug. 30th, 1877.

Bee-keepers are certainly not the only people who will be benefitted by having the cattle kept in proper enclosures.

SMOTHERING BEES.

A few days ago, in taking off an upper story I started some combs, and robbing set in; I closed the entrance with wire cloth, but it became stopped up solid. On opening the hive at night I found the combs melted down in a heap and bees all dead (smothered) except about one quart which were mostly on the outside of the hives. If I had known the passage was stopped inside the wires I could have saved them. They were so hot I could hardly hold my hand inside the hive. A brimstone match could not have done it more effectively. I have now got *ventilation on the brain* and do not think I shall be caught again in that way. N. A. Prudden.
Ann Arbor, Mich., Aug. 22d, 1877.

Be not too hasty on ventilation ; there seems to be something a little obscure about the matter. I too have had colonies melted down in a short time, where the entrance was covered with wire cloth, but have repeatedly closed the hive tight with sawdust for several days, without doing any injury. In the house apiary, I also close the entrances with a wad of paper without any bad results, but if wire cloth were used the bees would pack themselves so closely against it as to become first wet, and then hot, and finally suffocated. In shipping bees, we are in danger of having the same trouble, unless we have a large surface of wire cloth ; and I have, during the very warmest weather, covered not only the whole top of the hive with wire cloth, but the bottom also. When I adopted the latter precaution, they always went safely.

HONEY IN JARS AND VASES, AND EMBOSSING IN HONEY COMB.

Please inform me if bees will build honey in glass jars, or if there is any process known by which to make them do so? Henry Vars.
Richmond, Texas, Sept. 6th, 1877.

You can easily induce them to store in glass jars, vases, globes, fruit cans or any thing else, almost, by fastening bits of comb, or what is still better, fdn., just where you wish the combs to be. There is however a difficulty, because the combs are liable to break loose and slip down, on account of the unequal expansion of glass and wax. The remedy consists in making a frame of wood or paste board, to hold the combs, supported from the bottom. You can then have the vase so as to lift off from the whole wax structure. Those who are curious, can have very fanciful combs built in these vases. Friend Boardman of Huron, O., has just sent us a section of honey having a cross on one side and a diamond on the other, embossed in the sealed honey comb. This was probably produced by taking advantage of the propensity of the bees to bulge out their combs where an opening presents itself, as we have all noticed they at times do, by bulging one comb into an opening in the one next it. Now, if we should set a board next the honey in a section while it was being built, with the figure of a cross cut in it, we would have a bulged cross in the comb when it was built. To succeed in this, we should only experiment when honey is coming in rapidly, or by rapid feeding. We once had several fine glass vases filled with honey by simply cementing bits of comb to their tops ; but the bees disliked the glasses on account of the slipping they experienced in trying to climb up it, and they swarmed out twice before finishing their task.

The queen ordered is received and introduced safely. She looked to me as though not fertile, but I hope she is all right. A. C. Washburn.
Bloomington, Ills., Sept. 8th, 1877.

The same remark has been made so many times, I think it best to state that a queen, after a long trip in a cage, does look precisely like a virgin queen ; but that she will regain her accustomed size after being for a few days in a populous colony. Queens in small nuclei, almost always get small, sooner or later, but after having plenty of bees given them, they get large and long.

We are entirely out of surplus queens. Have been hard pushed all the season to keep up with orders. Bees *have* been working nicely on buckwheat, and are now gathering freely from the large smart weed and other fall bloom. Can't say yet, how many colonies we will winter. Have now 93, but still orders come in. J. M. Brooks & Co.
Elizabethtown, Ind., Sept. 6th, 1877.

Bees in this part of the country wintered very poorly last winter; some persons lost their entire stock, others half or more. I lost none. I packed mine in *dry* corn husks 6 inches thick and never saw bees winter so well. Some colonies gave 110 lbs. honey this season, besides doubling the entire number.
J. B. Ferguson, Jennie's Creek, W. Va., Aug. 31.

Our Homes.

But even the very hairs of your head are all numbered. Fear not therefore; ye are of more value than many sparrows.—Luke 12; 7.

THE Sabbath school I have several times spoken of, continues to flourish, and I believe to the mutual advantage of both scholars and teachers; at least it has the effect of making my Sabbath afternoons, very pleasant ones. I wish to tell you of another one, because some of the incidents connected with its starting, seem to illustrate just what I wish to say in regard to the labor question.

About 5 miles distant from the school mentioned, there is a small settlement on the railroad, consisting principally of three beer saloons, and secondarily of various shops and houses grouped about them. About ¼ of a mile "out of town," is a small red school house, where all public gatherings are held, that are for any reason deemed unsuited to the accommodations of the aforesaid saloons.

When the matter was discussed of pushing the Murphy temperance meetings into this place, we were told that they had no religious meetings of any kind in the town, and that therefore no one went to meeting at all on the Sabbath. I afterward found that a circuit preacher held a meeting in the school house every Sabbath afternoon, but as his flock consisted of only four members, the people in town had never attended, because they had probably never heard there was a meeting. Well, we had a temperance meeting one Sabbath afternoon, and the house was not only well filled, but many congregated on the out side, around the doors and windows. These were invited to come in, but as they kept up a running comment while the speaker was talking, they were doubtless more at their ease outside. Quite a goodly number of names was obtained, and for the accommodation of all, it was decided to hold another meeting in a grove near by, two weeks from that time.

The time came, and when I arrived, rather late, for I could not neglect my Sabbath school, I found a large gathering, but they were scattered about the wood in little groups and as before, kept up a regular buzz of talk among themselves. They reminded me of a good sized colony of bees that had been for some time queenless. It mattered not who was the speaker, they seemed to have but little respect for his feelings; finally a very plain outspoken one of our number ventured to remonstrate with them, and a group of large boys barefooted and in their shirt sleeves, talked back to him rather defiantly. I felt a little troubled at this, for I had pretty well decided in my own mind, that a Sabbath school was just what was needed in the community, and was almost the only thing that would get hold of these well meaning, yet uncultured brothers and sisters. After the speaker mentioned, the mayor of our town, who was with us, ventured on some remarks; this speaker although an earnest temperance man is not a—well I believe he belongs to the class who call themselves modern sceptics, and of course had no *particular* love in his heart for these beer drinking people, such as one who has been engaged in mission Sabbath schools, and who has seen the power of mild and gentle means, would be most likely to have. The mayor therefore, commenced a scathing rebuke to the barefooted six footers who confronted him, and told them that boys of their size who would come to a religious meeting barefooted and with dirty shirts on—their shirts I afterward saw were clean, but as they were of a checked material that was somewhat faded, he was somewhat excusable, for his hasty assertion—were a shame and disgrace to any neighborhood, and that it was the duty of the community to take them in hand.

Now, these boys had been drinking, and it is very likely that they had been furnished with it on purpose that they might go to the temperance meeting and make a disturbance. This I looked upon as one of Satan's plans, and I felt that it was our duty as a Christian people, to consider the boys more as objects of pity than blame. Of course a breeze was raised at once, and a fight was the very thing that a large porton of the audience, doubtless, would have liked to see. Our minister who was present, approached the boys with several others, and succeeded in partly pacifying them.

Among their number was one in particular, whom the mayor had very aptly designated as the lion of the crowd. This fellow was a powerfully built broad shouldered specimen of humanity, and with his face flushed with the drink he had taken, it seemed as idle to attempt intimidating him by threats, as it would to try to drive a two-story hive of hybrids without smoke. With us was a lady who had had considerable experience with public schools, as well as some in the Sabbath schools, and to her our minister appealed; and then told the boys he had promised that she should have respectful attention. This she did have, so long as she spoke, and then the meeting broke up.

Meanwhile, I made my arrangements for a Sabbath school that very afternoon, and felt somewhat embarrassed upon coming before the principal trustee of the school house, to find that he was barefooted also. At my first remark, he looked at his feet and seemed to feel ill at ease, and I then felt that I would not have him for the world think I thought any the less of him on that account. We had forced ourselves into the presence of these people, had invaded their neighborhood, as it were, with the ostensible purpose of "doing them good," and yet we were reproaching and finding fault with them on account of their manner of dress.

The house was at my disposal at once, just as long as I wished it for such a purpose, with a hearty good will that somewhat surprised me. I went back to the boys, and invited all hands to come to Sunday school. The juveniles came along with but little urging, although one of them did venture,

"Don't b'lieve yer got any cards with pictures on 'em!"

"Very well, but you will try me once will you not? I am a stranger, and you can not tell whether I tell the truth or not, but will you come and see?"

Of course he came, and he and his mates

were soon out recruiting for me, for I have found nothing in the world like giving children, new converts, and everybody else, for that matter, something to do, if you wish to keep up their enthusiasm. Our barefooted Hercules, was not so easily won. He declined shaking hands even the second time, in spite of all I could say, but did consent to go to Sunday school, and brought all his comrades with him. They were supplied with books, and very soon we made the house ring, with

"What a friend we have in Jesus."

I then explained that Jesus was the friend of everybody, high or low, rich or poor, and as I rather expected, Hercules asked if he was the friend of those who went barefooted and wore checked shirts. I answered as well as I could, and when school closed, he took my hand cordially and promised to come to Sunday school every Sabbath, and to help it along all he could. Can you imagine how much I thanked God that he had answered my prayers so far, and had permitted me to come off conqueror?

The battle was not over however, for Satan seldom gives up at one or two rebuffs; he is sharp and keen, and if you begin counting your victory too soon, you will usually find yourself unexpectedly outwitted. I looked in vain for his face the next Sabbath, and the next; and as he staid away longer, I had a sort of premonition that he would sooner or later be heard from, in some way unexpectly. In fact I was anxious to see him, for I knew if he came, all the rest of his class, would be sure to come with him. I finally met him one day on the street, and spoke to him pleasantly. Soon after, he came into the store, and I noticed that he seemed particularly taken up with a violin that was in the show case; this paved the way for an acquaintance, for he was a very tolerable player, and I asked him again to come and help with the Sabbath school work. The next Sunday when school was about half over, in he came, barefooted, and dressed in a way that very plainly showed defiance. He was accompanied by a half dozen others, dressed much in the same way, and all more or less under the effects of beer or something stronger. Even before they commenced to talk aloud, I concluded I had better give my attention to them, instead of the class I had in charge, and when an obscene remark spoken aloud, struck my ear, my face burned with indignation. Why should whiskey prompt to everything that is low lived and despicable, and why should it seem to strike death blows, to everything pure and sacred? What could induce these men, some of them doubtless fathers of children, to become so utterly indifferent to the example they were setting those little ones about them, who were there in their clean clothes, and doing the very best they knew how, to follow in the straight and narrow path their teachers were laboring to point out to them. As soon as I could conveniently, I started "Hold the Fort," and when the singing ceased, I took good care to occupy all the time by the best counsel I could possibly gather, on short notice. Whenever they appeared in the least restless, I started some hymn that they all knew, and thus kept things tranquil until they seemed to have rather lost or forgotten their purpose of interrupting us. I then asked if some of our visitors would not like to favor us with some remarks in regard to the progress of the school and bowing pleasantly to their leader, asked him if he would not say something to the children. At this he appeared somewhat embarrassed, and finally said he believed he had nothing particular to offer.

"But you think our school is doing finely, do you not?"

"Yes, you are doing very well indeed."

"And we can count on your assistance occasionally, can we not?"

"Yes, boys," turning to his companions, "this school is all right, and we are going to help it along."

After he got out-doors, I was told that he said he was coming again, but that he was not coming in the same "fix" next time.

He was on hand promptly the next Sabbath, and with his feet comfortably clothed. After arranging the classes, I took those in his corner, for a Bible class, and labored earnestly, during the greater part of the allotted time, to draw something from the lesson of Paul at Corinth. It seemed all of no avail. All my remarks seemed to call forth nothing but that listless indifference, that most teachers have felt so often. I related anecdotes, but all to no effect, for if they heard me, they were not sufficiently at home, or did not care to smile. I could not get *hold* of them. Finally I touched upon the idea of Paul's working week days, and preaching on the Sabbath, and then asked them why a minister should have three or four dollars a day for preaching only on the Sabbath, and doing nothing during the week.

"Now you boys work hard from sunrise until sunset, do you not, on the farm?"

"You bet we do. And not only that, we get up before sunrise, and work after sunset, if you count milking and all such, work."

This was the first full sentence, I had been able to draw forth, and I felt somewhat encouraged.

"Now a man who teaches school, has only to teach about six hours a day; why should he have more pay than you do, or is it really right he should have as much?"

All were now full of attention, and ready with replies. When I had succeeded in getting them to commit themselves fully, I explained to them as well as I could, the reason why some people got great wages, for only a few hour's work, and impressed them with the idea that the way was open to every one of them to do the same, if they were only willing to set right about it, and to pay the price.

"Boys, if you had a valuable watch that needed repairs, you would take it to a good workman, one who was *honest*, and *skilful*, if you could find such a one, would you not?" They assented.

"Such a one, you would have to pay good wages, but you would willingly do so, would you not? It would be much cheaper in the end, than to have your watch injured by a dishonest man; and besides, the last named, would be very apt to make a larger bill, than the former. Now suppose you had a boy, whom you were anxious to have grow up intelligent, learned, and true. He would be very apt to pattern after his teacher; and we therefore want a teacher, who is the very soul of honor. It is a far more serious thing to have a boy spoiled, than a watch. If the teacher taught temperance and honesty during the day, and then went off and got drunk nights, he would not be worth a very big price would he?"

"But we pay a big price, and they are not honest then."

"Do you think honest people *are* scarce?"

"Yes."

"This makes the matter still worse, as we shall have to pay all the more when we find them, for the laws of demand and supply, govern this commodity as well as all others. On the other hand there is the greater inducement, for us to be honest. Now, a minister is of still more moment to us, for he not only takes charge of our children, but of grown up people as well, and if we should make a blunder in our choice of *him*, there would be great danger of a general corruption all through.

"If you had 10 hives of bees, and 9 of them were industrious while the tenth was doing nothing but rob the others of their stores, all might get along very well; but if 9 were robbers and but one honest workers, the whole apiary would soon come to ruin. It is so with the human family. If a man is so bad as to be a counterfeiter or highway robber, he prefers that the rest of the people should be honest hard workers, or there would be no money for him to steal; so even he would like to have a good honest minister to set people a good example; and such men frequently pay handsomely for the support of a good minister. It matters not what *we* are, if we employ anybody we want him honest; if honest hands are scarce and command large pay we must pay the price; and if they are to do very important work, where something of great moment is given entirely to their care, we must pay a still greater price. If, added to honesty we want a man educated and fully posted in all modern improvements, and fully alive to all the affairs of our nation and others, I tell you my friends we ought to be happy if we can get such teachers of the people at any price. Meanwhile, if we crave high wages, let us try our level best to be honest too; for honest and well informed men are now being sought out, and hunted up, for almost all avenues of business.

"But *we* are honest! Are we? There are quite a number of us, and it has just been said that honest men are very scarce. Is it not rather probable, that we average just about like the rest of humanity, and that every one of us can do a great deal better? I know of one person at least, that can."

School is dismissed.

P. S.—Perhaps some of you would care to know more of the young man whom I mentioned last month. Well, he is at this very minute setting the type for these very words. He is on hand promptly every Sabbath at both the mission Sabbath schools, has a class usually, in each, works as steadily as a clock during the week, when he is not in the tops of the highest trees in the woods cutting out bees. And by the way, it was he who gave me almost my entire lessons in getting the bees from a tree. He has now a swarm of his own that was taken from a tree, and they are prospering most beautifully, with the assistance of daily rations of brown sugar in one of the wooden feeders. In return for the lessons I tried to give him a few months ago, he has taught me —and you, how to take wild bees. It may take some practice however, before we can handle an axe in a tree top as he does, and then climb out on the limbs while said top goes crashing to the ground.

I have good reason to think that while he is doing this dangerous work, he remembers who it was that said "even the very hairs of your head are all numbered, fear not, for ye are of more value than many sparrows," and that the same loving Father is watching over us, whether in the Sabbath school doing the best we can, or amid the topmost limbs of a giant elm

DEPOSITORY OF
Blasted Hopes,

Or Letters from Those Who Have Made Bee Culture a Failure.

A FRIEND sent for Gleanings about two weeks ago. I have read them all through about three times, and know more about bees than I could have learned in 20 years without them. I had 22 hives of black bees last fall; built them a tight house for winter, housed them in Dec. and all were nice and strong, with plenty of brood, the 10th of Feb. when it came off very warm and continued so until after the first of March. Thinking we would have but little more cold weather I tore my house down, and in 3 days my bees were covered with snow, and the weather was colder than it had been before, during the winter. I got 6 into a small cellar and the balance had to stay in the cold; the result was I had 9 weak swarms the first of May. So you will either have to make a separate place for me in Gleanings, that of "blasted fools," or do as I did with my bees, leave me "out in the cold." I have now 18 strong swarms, which I don't think will be used as roughly as they were last winter.

When is the best time to get Italian queens? I wish to get 6 or 8 for my hives. I have never had a book on bee-keeping to look at until I got Gleanings, and all I have to say is, I wish it came every d—— well, week, at least.

I have had but little surplus this season. Now, if you put me in the column I spoke of, don't leave me there by not answering my questions, because I want to succeed with my bees; and with Gleanings' help I *will* succeed. There now!

Wm. L. King, Sodus, Mich.

We sometimes feel that we have made fools of ourselves, friend K., and it may be a *good thing* to feel so sometimes, if acknowledged ignorance really *is* the beginning of wisdom. Your experience only illustrates what we have all been learning of late, that the bees need protecting more in the spring when rearing brood largely, than in the depth of winter. I would advise dollar queens for all general purposes, and in fact nearly all the queens now sold are of this kind. They can be introduced any month in the year when bees fly. Say from March until Oct., inclusive. We usually do the heaviest trade in them in Aug., and Sept., many are sent by mail as late as Oct., and some have been sent safely in Nov.

I made the mistake of many bee-keepers, in not adopting the Langstroth hive. If I were to begin again, I should do so. Don't like to change now.

Eugene Secor, Forest City, Iowa, Sept. 10, '77.

GOOD NEWS.

HOW TO WINTER BEES FOR 50C PER COLONY.

A FEW days ago a colony was found that would let any bee that wished, go in and help himself, as long as there was any honey in the hive. In vain we tried to stir up a spark of spunk in them; they seemed to have lost, or never had, the keen sense that ordinarily enables bees to distinguish thieves from their own inmates. They were well marked Italians, and gentle, *of course*, but I was tired of giving them combs of honey, only to let the other bees learn bad habits, and demoralize the whole apiary. I had almost determined to let them suffer the result of their own folly one day when out of all patience with them, but then came the thought, as it often does, perhaps this case too, was sent me for the purpose of doing me good, and unfolding some great lesson, if I would only receive it mildly and patiently, instead of getting cross about it. "Well you little scamps, what *is* the lesson a body is to learn of you? I guess it must be candy," I said mentally, and went and brought some. The robbers were on hand, and as soon as I left the hive, they piled in to see how much honey I had furnished *this* time. They worked some on the candy, but it was too slow business, and I finally stopped the robbing entirely by scenting their hive with essence of rose, and the hive of the robbers with camphor. The morning after, all bees that were perfumed with camphor, were led out by the ear, or perhaps leg, as soon as they made an appearance. Under the candy treatment, the combs soon filled up and every thing began to prosper, but being quite busy I began wondering if there were not some way of giving them a "big lot" at one "dose." Candy bricks could be put on the frames, it is true, but after they were consumed, the bees were quite apt to build combs above the frames instead. Putting a heavy frame of sealed honey into a hive seemed the most satisfactory way, and I called the boy who makes the candy for the queen cages, and told him I wanted a cake of just such candy, made inside of a Langstroth frame. He soon exhibited two of them looking and feeling like blocks of marble, and one was at once hung in a nucleus hive that had an especial fancy for swarming out every Sabbath when I was away at Sabbath school, just because they had too few bees, and too little honey. They at once filled their combs as if it were clover time, and yet it was all done so quietly, that not a robber even "*smelled*" feeding. One such comb weighs 7 lbs and a pair of them, I verily do believe, would winter a large colony that had not one drop of stores; you could pack them up as snugly as you chose in your chaff cushions, and after their candy was all gone, they could build a comb in the frame that contained it, just as well as not if it happened to be left in the hive until spring time. A very good colony, could be fixed up on 4 empty combs placed between the two slabs of candy, and can you think of any possible way of putting their food in a more compact form? Do you ever have your nuclei swarm out because they in some way get out of honey? Well, if you will make the little hives so as to hold 3 frames, and have the back one contain candy, you can run them all summer, even if it is the worst season you ever knew, without any solicitude in the matter. Lots of eggs were laid in the hive that had been robbed so long, but as they were entirely out of pollen, no larvae made its appearance. The candy boy was again called, and desired to make some more, but to put 1-10 part of it wheat flour. This looked all right, and another lot was made of ¼ flour. The bees ate this in preference to the pure sugar candy, and soon had a nice lot of brood. Just about this time, the following letter came to hand:

I have been keeping house for the last 46 years and keeping bees more or less for the last 40 years. Your GLEANINGS is all new to me and I don't know where to begin. I have never seen an Italian bee; my bees are all black, in box hives and don't do me much good; still I like to have them about me. The moth is very troublesome here and with all I can do, they devour some of my hives. I want to get some of the Italians in your best hives, and try my luck.

I see you recommend syrup made from coffee sugar for feeding bees. This is very good, but in addition to this I have used light wheat bread. I cut a slice about one inch thick, then pour on molasses until the bread is saturated thoroughly, lay it under the hive and they will come down and eat it up crust and all. This I commence about the first of March, or sooner if I see the bees are in want. In this way I can take a weak hive through on 2 lbs. of sugar and 3 lbs. of bread. I think this is cheaper than all molasses, and then my bees don't dwindle away in April or May and die. "Man can not live on bread alone."

A. POWELSON, Black Creek, O.

In the same mail, came also the following.

Some 3 weeks ago I made 4 new swarms in the following manner: Having shaken and brushed all bees from the frames of 4 hives into 4 empty ones, I placed the latter on the old stands and removed the former to the place of 4 other full hives, which I placed on new stands. I began to feed the 4 new ones with corn or grape sugar made into syrup and say 1-10 honey mixed with it. The bees took it eagerly and began building comb immediately. They have now sealed brood and the hives are, say ⅔ to ¾ full of comb, and some of the syrup is sealed. The comb is very white—remarkably so. The sealing of the cells containing brood has a peculiar look, different from the ordinary appearance. We have had very little honey gathered lately and judging by the taste of what is stored in the 4 new hives there has been very little, if any honey mixed with the syrup by the bees. Many of my July swarms are very light; I would like to ask your advice, and should be much obliged if you would send it on the enclosed postal card. Query: supposing that the young bees in those 4 hives appear healthy when hatched out, and that there appears to be nothing wrong with the old ones, would you venture to feed the same syrup to the light hives for wintering purposes? I winter in a large cellar well ventilated. It should be remembered that the syrup is beautifully sealed over already. If I remember rightly Prof. Cook seems to make a point of feed being sealed over, and seems to consider that stores which are sealed are therefore good. The sugar is bitter but very white and dry and costs but 4 cts, whereas white cane sugar costs 11c. Will write and let you know the result as soon as I am certain of it. JOHN. DICKENSON.

Milwaukee, Wis. Sept, 9th. 1877.

The bees which were fed on the grape sugar are hatching out all right. J. D. Sept. 15, '77.

I replied that if it were my bees I would risk it for winter stores. I fed glucose some years ago, but had not tried the grape sugar, which I suppose amounts to about the same thing. After some inquiry I found where it was made, and obtained the following:

Davenport Glucose Manufacturing Co., Manufacturers of Superior Double Refined Grape and Malt Sugar, Crystal Glucose Syrup.

Davenport, Iowa, Sept. 12, '77.

We will furnish you our Sup. Double Refined Grape Sugar at 3½c in barrels of 375 lbs. and 4c in boxes of 50 or 100 lbs. We mail you a sample free, and you may say what quantity you want.

LOUIS P. BEST, Sup't.

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our tenth edition circular found in April No., Vol. V., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required.*

Canada postage on *merchandise* is limited to 8¾ oz., and nothing can be sent for less than 10c.

BEES.

Bees, full colony amply provided for winter, in our new two story, chaff hive (described Nov. and Dec.No's .. '76), tested queen from imported mother, safe arrival guaranteed..(Lawn hive $1 more.)	$15 00
The same in a 1 story Simplicity hive	13 00
The same in old style L. hive with portico, etc	12 00
The same with hybrid queen	10,00
Not provisioned for winter (hybrids in old hive)	7,00
Two frame nucleus with tested queen	5 50
The same with dollar queen	4 00

For an imported queen in any of the above, add $5,00

We think we can prepare bees for shipping safely any month in the year; when we fail in so doing, we will give due notice.

10	Bee-Hunting box, with printed instructions	25
0	Binder, Emerson's, for GLEANINGS	50, 60, 75
	Balances, spring, for suspended hive (60 lbs)	8,00
10	Blocks, iron, for metal cornered frame making	15

One of the above is given free with every 100 frames, or 1000 corners.

	Barrels for honey, $2,50 ; waxed and painted	$3,50

Buzz-saw, foot-power, *complete*; circular with cuts free on application. Two saws and two gauges included. $35 00

0	Buzz-saws. extra, 6 in. 1,50; 7 in., 1.75; 8 inch	2 00
60	Buzz saw mandrel and boxes complete for 6 inch saws	5 00
	The same for 7 and 8 inch saws (not mailable)	8 00
	Comb Foundation Machines complete	$30 to 100 00
	Comb basket made of tin, holds 5 frames, has hinged cover and pair of handles	1 50
60	Chaff cushions for wintering	30
25	Chaff cushion division boards	20

Half price without the chaff, and postage 5 and 9c.

20	Candy for bees, can be fed at any season, per ℔.	17
20	Corners, metal. per hundred	75
20	“ “ top only	1 00
15	“ “ bottom, per hundred	50

On 1,000 or more a discount of 10 per cent. will be made, and on 10,000 25 per cent. The latter will be given to those who advertise metal cornered frames.

	Corners. Machinery complete for making	250 00
10	Clasps for transferring, package of 100	25
0	Cards, queen registering, per doz. 6c, per 100	40
1	Cages, wood and wire cloth, provisioned, see p. 214	05
12	“ “ “ per doz	50
2	Cheese cloth, for strainers, per yard	10
12	Duck, for feeding, and covering the frames—bees do not bite it—per yd. (29 inches wide)	20
	Extractors, according to size of frame	$7 50 to 10 00
	“ inside and gearing, including honeygate	5 00
	“ Hoops to go around the top (per doz. $5.)	50
5	Feeder, Simplicity. (see page 239) 1 pint	5
7	Feeders. 1 q't, tin, pepper box style	10
25	The same, 6 qts, to be used in upper story	50
4	Frames with Metal Corners	05
5	“ “ Sample Rabbet and Clasps	10
18	Galvanized iron wire for grapevine trellises per lb. (about 100 feet)	20
0	GLEANINGS, Vol's I and II, each 75c., Vol IV	1 00
0	“ Vol. III, second-handed	2 00
0	“ first four volumes neatly bound	5 00
0	“ “ “ “ unbound	4 00
50	Gearing for Extractor with supporting arm	1 50
25	Gates for Extractors tinned for soldering	50

SIMPLICITY BEE-HIVE.

One body and 1 cover in the flat, as sample to work from—one sample frame and sheet of duck included 1 00

One story hive for extractor (body 50c—2 covers 60c—nailing and painting 20c—quilt 25c—10 frames 60c—crating 10c) 2 25

One story hive for comb honey is precisely the same as the above, substituting 2 frames of sections for 4 metal cornered frames 2 25

The above 16 sections will be fitted with fdn., and starters ready for the bees, for 15c, and the tin separators added for 10c, making whole complete 2 50

The above two hives contain everything used in a 2 story hive. We simply use another body filled with frames or sections, for a 2 story hive.

For a 2 story hive for the extractor, add (to 1 story 2 25) body 50c—nailing and painting 10c—10 frames 60c—crating 5c, making complete 2 story containing 20 frames 3 50

For a 2 story hive for comb honey add (to 1 story 2 25) body 50c—nailing and painting 10c—6 frames of sections 78c—1 metal cornered frame 6c—crating 6c, making complete 2 story containing 7 frames and 64 sections 3 75

If filled with fdn. starters 60c—if also filled with tin separators 40c, making $4 75, if two latter items are wanted.

An upper story filled with sections, fdn. starters and all ready to be set over any L. hive $2,75

To prepare the above hives for winter, put in place of the 2 outside frames chaff cushions, price 20c each, and a thick one on top 30c.

Iron frame to gauge size of above hives, and to hold them true when nailing, size 20¼x16 inside 50

	CHAFF HIVE FOR OUT DOOR WINTERING, 10 frames below, and 14 frames or 80 section boxes above, well painted and finished complete ....(Lawn hive $1 more.)	$5 00

If filled with fdn. starters and separators, $1.25 more.

Without frames chaff or paint, as sample to work from 2 50

These hives, if supplied with stores, will, we hope, need no attention whatever, from the time honey ceases until it comes again the next season.

Two frame nucleus hive, neatly painted 50

For price list of hives in the flat, see Sept. No.

0	Knives, Honey (½ doz. for $5.25, or $5 by Exp.)	1 00
	“ “ curved point $1.15..per ½ doz	6 25

Labels for honey, in blue and gold, dark bronze and gold, or in white printed in two colors, furnished with your own address, and source from which the honey was gathered, already gummed, post paid by mail, (no order rec'd for less than 250). At these low rates, the full number mentioned *must* be ordered without the change of one single letter of the type .... 1000, $3,25 ; 500, $2,40 ; 250, $1,80

0	Lithograph of the Hexagonal Apiary	25
	Lamp, Nursery for hatching queen cells as built	5 00
0	Larvae, for queen rearing, from June to Sept.	25
15	Microscope, Compound, in Mahogany box	3 00
0	Prepared objects for above, such as bees' wing, sting, eye, foot, etc., each	25
0	Medley of Bee-Keepers' Photo's, (150 Photo's)	1 00
0	Magnifying Glass, Pocket	50
0	“ “ Double lens, brass, on 3 feet	1 00
7	Muslin, Indian head, for quilts and cushions per yard, pretty stout, but not good as duck.	10
	Parafine, for waxing barrels, per pound	20
0	Photo. of House Apiary and Improvements	25
2	Rabbets. Metal per foot	02

SECTION BOXES IN THE FLAT, PER 1,000.

Any dimensions not exceeding 2x5x5 .... 10 00

The above is 50 cubic inches; for larger sizes add 10c per 1,000 for each additional cubic inch or fraction of an inch, outside measure. Extra prices for less than 500.

Just right to fit in L. frames, 2x4¼x4¼ 9 50

Sample by mail with fdn 5

If the grooving for holding the fdn. is omitted, 25c less per 1,000. Sections weigh from 7 to 10 lbs per 100.

10	L. frame made 2 inches broad to hold 8 sections	5
25	The same with 8 sections	13
25	The same furnished with fdn. starters all ready for the bees	20

Adding tin separators to either of the above will increase the price 5c, and the postage 6c.

6	Section boxes, fancy, hearts, stars, crosses, etc. each	5
5	Sheets of duck to keep the bees from soiling or eating the cushions	10
	Shipping Cases for 48 section frames of honey.	50
	Salicylic acid, for foul brood, per oz	50
0	Scissors, for clipping queen's wings	40
18	Seed, Alsike Clover, *raised near us*, per lb	25
18	“ Summer Rape. Sow in June and July.	15
0	“ Chinese Mustard, per oz	25
18	“ Mignonette per lb. (20c. per oz.)	1 50
18	“ Mellilot, or Sweet Clover, per lb	60
18	Silver Hull Buckwheat (peck by express, 75c)	10
10	Smoker, Quinby's (to Canada 15c extra)	1 50
5	“ Doolittle's	25
25	“ Bingham's	$1 00, 1 50, 1 75
25	“ OUR OWN, see illustration in Sept. No	75
2	Tacks, Galvanized	10
5	Thermometers	40
0	Veils, Bee, with face of Brussels net, (silk)	75
0	The same, all of tarletan (almost as good)	50
	Wax Extractor	3 50
	Copper bottomed boiler for above	1 50
5	Wire Cloth, for Extractors, tinned, per sq. ft.	15
2	“ “ Queen Cages	12

Above is tinned, and meshes are 5 and 18 to the inch.

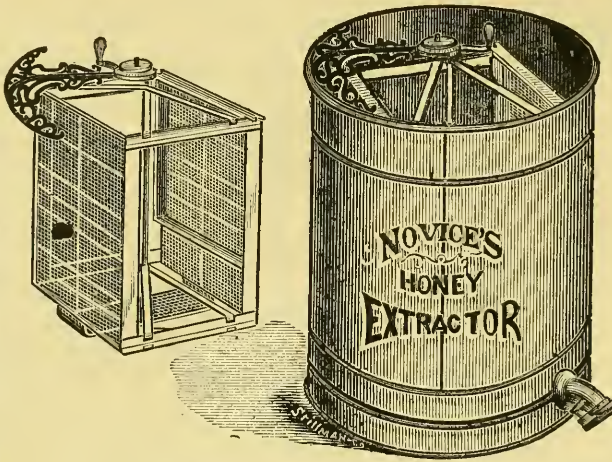
3	Painted wire cloth, 14 mesh to the inch, per square foot	7

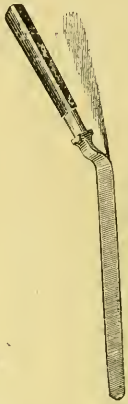
All goods delivered on board the cars here at prices named.

A. I. ROOT, Medina, O.

PRICES OF EXTRACTORS:

For Gallup frame, $7,50; American frame $7,75; Adair frame, $8,00; Langstroth, $8,00; Quinby, $9,00. No knife included at these prices. All the above sizes kept constantly on hand ready to ship. OVER 1000 NOW IN USE.





Our Honey Knife, Price $1,00, post-paid, is made of fine steel, nicely finished, with a thin keen edged blade that needs no hot water or any such "fussing" to make it uncap nicely

In ordering be sure to give outside dimensions of frame, and length of top bar.

ADVERTISEMENTS.

Advertisements will be received at the rate of 20 cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

FREE! FREE! FREE!

We will send a sample copy of the **Bee-Keeper's Magazine,** *post-paid,* to any person in any way interested in **Bees** or their **Products,** or in the apparatus so successfully used in modern management. Just send your name and address to **A. J. KING & CO.,**
8tf **61 Hudson St., New York.**

Every Bee-keeper should subscribe for it.

The American Bee Journal

Is the best scientific and practical Journal of APICULTURE in the world. The most successful and experienced Apiarians in Europe, as well as America, contribute to its pages. In fact, it is the *oldest* and *largest* BEE PAPER in the English language. **$2.** Per Annum. Send a Stamp for a Sample Copy. Address THOMAS G. NEWMAN,
tf 184 Clark st., Chicago, Ill.

CASH FOR BEES-WAX.

We are paying 30 cents per pound for yellow beeswax, in lots of from 50 to 5,000 or more pounds, delivered at Syracuse, or 31 cents, if exchanged for white wax. If you have any wax on hand, and can deliver it at the above price, please do so, and we will send you our check on receipt of the same.
ECKERMAN & WILL.
8-7 Wax-bleachers, Syracuse, N. Y.

IMPORTED QUEENS AT $5.

We are receiving queens from the best districts in Italy, which we will sell at $5. each.

This price being very near cost no discount can be given on the dozen.

Having ordered queens sent to us every two weeks, we expect to fill orders without delay.

We will deliver at express office here in box as received, or forward by mail, as requested.

No queens raised this season or circular issued.

Registered letter or money order sent at our risk.
C. W. & A. H. K. BLOOD,
8tf P. O. Box 234. Quincy, Mass.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 20c. each insertion, or $2.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c. each insertion, or $2.00 *per year.*

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, safe delivery, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If wanted by mail, send 10c. extra.

*Wm. W. Cary, Colerain, Franklin Co., Mass.	3-2
*J. Oatman & Co., Dundee, Ill.	1-12
*E. W. Hale, Wirt, C. H., West Va.	6-6
*J. M. C. Taylor, Lewiston, Fred. Co., Md.	1-12
*Dr. J. P. H. Brown, Augusta, Ga.	1-12
*Albert Potter, Eureka, Wis.	1-12
*Wm. J. Andrews, Columbia, Tenn.	2-2
*J. H. Nellis, Canajoharie, N. Y.	5-11
Miss A. Davis, Holt, Ingham Co., Mich.	5-4
D. A. Pike, Smithsburg, Wash. Co., Md.	5-6
*W. A. Eddy, Easton. Adams Co., Wis.	6 11
*E. C. Blakeslee, Medina, Ohio.	6tfd
*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Columbia Co., Pa.	7-6
*J. Shaw & Son, Chatham Center, Medina Co., O.	8tfd
*M. L. Stone, Mallet Creek, Medina Co., O.	8tfd
*J. H. Townley, Tompkins, Mich.	9-10

Bees for Sale.

We whose names appear below agree to sell a good colony of Italian bees with tested queen, in new one story hive, for $10,00. If in an old hive, $1,00 less. Safe arrival guaranteed.

A. I. Root, Medina, Ohio.	
J. H. Townley, Tompkins, Mich.	9-10
O. H. Townsend, Hubbardston, Mich.	9-11

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
M. S. West, Pontiac, Mich.	6-5
Geo. W. Simmons, Newark, Del.	1-12
Isaac L. Parker, McMinnville, Warren Co., Tenn.	3-2

CLIMBERS FOR BEE HUNTING, $2.50.
A. I. ROOT, Medina, O.

TESTED QUEENS for $2.50, with 2 frame nucleus full of brood and bees $5.50, five for $25.00; all from imported mother. The same with a dollar queen $4.00.
E. C. BLAKESLEE, Medina, Ohio.

GLEANINGS IN BEE CULTURE

Devoted to Bees and Honey,

And Peace on Earth and Good Will toward Men.

PUBLISHED MONTHLY, AT MEDINA, OHIO,
BY A. I. ROOT.

Vol. V. November, 1877. No. 11.

To Many Inquiring Friends.

PATENT HIVES—WHAT FRAME OR HIVE TO USE—SHALL WE USE AN EXTRACTOR, OR RAISE COMB HONEY?—ITALIANS—THE BEE MOTH—SPACE FOR COMBS—FOUNDATION.

While I earnestly try to maintain a broad "charity for all, and malice toward none," and while I do not wish to take upon myself the responsibility of dictating a course for others, I feel it a duty to discourage with all my might, both by precept and example, everything in the shape of patented bee hives, or patents on anything pertaining to bee-culture. On the other hand I shall try to encourage every one to do all in their power to advance the common good of all. I do not believe the world "selfish and grasping," but have unlimited confidence in the disposition of our people to desire to pay for everything they get, and to reward those who work for them disinterestedly, when they once get a clear understanding of the matter. If you have made a valuable invention or discovery, give it to the people rejoicing that you have been enabled to contribute your mite to the common good, and in seeing others happy, and sooner or later, you will surely have your reward. *Nothing is patented in the shape of hives or implements, that we advertise.*

I recommend the Langstroth frame for everybody, and for every purpose whatever, in preference to anything else, and I have pretty thoroughly experimented with all shapes and sizes. There may be other forms that will give just as good results, but I do not believe there are any better. For all general purpose, I advise the Simplicity hive holding ten of the above frames. The hive is made of ⅞ lumber, and is 20¼ by 16 inches outside measure. The Langstroth frames as our gauges make them, are 17⅝ by 9⅛ outside measure. As the chaff hive is the same thing with an outer shell to hold the chaff that protects the hive from the winter's frosts, as well as summer's sun, no confusion can result from using both in the same apiary.

Produce just whichever pays best in your own market, and no one can tell so well as you, yourself, can by trying both; you can perhaps produce a nice article of extracted for about 15c., as cheaply as comb honey for 20c. You can produce thin, raw, unripened honey without any trouble for 10c. or less, but it will probably pay you best to give your customers an article as good in every respect as that found in the nicest comb honey.

The comparative advantages of the black or common bees and Italians, is a matter that no longer admits of discussion, and I must consider the very few individuals who write in favor of the former as belonging to that class of unfortunates who seem to delight in being contrary. If tons of honey are to be considered a proof, the matter has long ago been amicably settled in favor of the Italians.

The bee moth need hardly be mentioned now, unless it is to advise you to drive them out with Italians, for whenever they come into a neighborhood, the moths get out without any farther trouble or bother. This one feature alone, is enough to justify introducing Italian queens in place of the blacks.

The usual space allowed for brood combs is about 1 7-16 inches, but the matter is not at all important. They can be worked as closely as 1⅜, or as far apart as 1¾. For surplus honey we would have about 2 inches space from centre to centre of the combs.

Now my friends, I beg to be allowed to make a request of *you*. Answering questions by letter or by postal, is a grievous tax on my health, strength, time and money. Will you not, before asking, look over the above, our circular which we give away, besides paying postage, and the contents of our A B C on next page? Nearly all the questions that are asked, are carefully and deliberately answered in the above, if you will only take the time to look them up. It takes hard brain labor to answer your questions faithfully, and when they come by the thousand, it takes all my time from the journal, and from those to whom it belongs, having paid me their money. Now please do not think me unkind, if your answers are brief, on a postal, and written by one of the clerks. It is the very best I *can* do. Your busy friend, NOVICE.

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Catnip 308

We have to-day, Oct. 30th, 2469 Subscribers.

Slabs of the flour candy in chaff hives, produce beautiful combs of brood. "*every time*," even as late as Oct. 31st.

ITALIAN BEES.

Imported and home bred queens; full colonies and nucleus colonies; bee-keeper's supplies of all kinds, Queens bred early in the season. Send for catalogue.
9tf DR. J. P. H. BROWN, Augusta, Ga.

The A B C of Bee Culture.

My friends, I am selling a great many books on bee culture, and many are the questions asked in regard to their teachings. I can not be responsible for the teachings of other writers, but I do intend to be responsible for all that appears in the A B C; and furthermore, I have been to the expense of purchasing the type for the whole of it, that every mistake or wrong statement may be corrected, just as soon as it is found to be such. The sheets are to be printed, only as fast as they are sold, that none of the information may be old, or behind the times. Subscribers to GLEANINGS, of course get the whole, without charge; but our inquiring friends who are not subscribers—and there are many—will be supplied for 5c each No.

NO. 1 CONTAINS:

Absconding Swarms; Swarming out for want of food in early spring; Nucleus swarms; Runaway swarms of all kinds and all the usual means of preventing losses from this cause.
After Swarming; How it comes about; Several queens in one; Shall we prevent them? What to do to make them good stocks, &c.
Age of Bees; Age of queens, workers and drones.
Alighting Boards with illustrations; Importance of convenient ones; Sawdust for, just as good as the most convenient; Porticos more for ornament than real use, &c.
Alsike clover; Modes of cultivation; Time of blossoming; Value for honey and value for seed and forage.
Anger of Bees; Why they are ill-tempered, how to keep them good, &c.

NO. 2 CONTAINS:

Ants; In what respects they are harmful; The best means of getting rid of them, &c.
Apiary; Where to locate; Wind breaks, the importance of and how to make; The Vineyard Apiary with diagrams and illustrations; The chaff Hive Apiary with illustration; The House Apiary with diagram and illustration; comparative advantages and disadvantages of the above three, &c.

NO. 3 CONTAINS:

Apiary, continued; Floating Apiary; Railway Apiary; which style of Apiary to adopt, all things considered.
Aphides; Their agency in the production of honey dew more common than is generally supposed, &c.
Artificial comb.
Artificial Fertilization, with accounts of the attempts and failures.
Artificial Heat for raising bees, its failures.
Artificial Pasturage; Will it pay to raise plants and trees for honey alone? If so, what plants.
Artificial Swarming; very plain directions for beginners; Shall they buy their queens or rear them? How to select combs of hatching brood; Using fdn. for the purpose; How to get good queen cells, how to prevent their being destroyed, &c.
Asters; How much honey they produce, and what they are like.
Barrels; How they should be made; How to prevent their leaking or tainting the flavor of the honey; How to get the honey out after it is candied; Caution, &c.
Basswood; Its great value as a honey producing tree; Our orchared of 4000 Basswood trees.

NO. 4 CONTAINS:

Basswood continued, with an engraving.
Bee-bread.
Bee-dress; how a bee-keeper should arrange his clothing; about Veils and Gloves.
Bee-hunting; How to make a hunting box, illustrated; how to start them on the bait, follow the line and find the tree; how to make a pair of climbers, with engraving; how to climb the tree, how to get the bees and combs, and how to transfer them; habits of wild bees, and best season for trapping them.
Bee-moth; never trouble where strong colonies of Italians are kept; how to keep empty combs secure from them; how to fumigate empty combs or box honey, when the moth appears in them.

NO. 5 CONTAINS;

Bees; the different kinds of bees under domestication; how bees grow; how the inside of a hive looks at different seasons; how bees behave at different ages.
Blue Thistle as a honey plant.
Borage as a honey plant.
Buckwheat, its value; different varieties, mode of cultivation; how to get farmers to raise it.
Cages for queens and how to make them; how to cage the bees and queen, and how to send them off, illustrated with engravings.
Candied honey; how to prevent it from candying; how to make candied honey confectionery.
Candy for bees; all about how to make it; what kind of sugar to use; caution in regard to candy making.
Catnip as a honey plant; its value, and mode of cultivation.
Cider and cider mills; their damaging influence on an apiary, and how to get along with them.

NO. 6 CONTAINS:

Clover; White Clover, White Dutch Clover, Red Clover, Sweet Clover or Melilot, Lucerne, Esparcette, Alfalfa, Trefoil. &c.
Comb Basket; its utility in an Apiary, and how to make one. illustrated.
Comb Foundation, its discovery, and progress up to the present time; How to make the wax sheets; Rolling the wax sheets; Trimming, squaring, and cutting the sheets; How to fasten them in the frames and honey boxes.
Comb Honey; How to secure it in the simplest, neatest, and most marketable shape; Best size for section boxes, and best manner of putting them in the hives; How to prevent the bees from clustering outside their hives; How to remove the filled sections; always use the tin separators; Engraving of a section filled with honey; Marketing honey, and engraving of a filled shipping case of honey; caution about keeping your honey clean and free from stickiness.

The above 6 Nos. will be mailed, neatly bound in paper covers, for 25c. This constitutes the A B C book Part First, and it will, I hope, prove of great value to beginners. It is printed on fine heavy paper, and illustrated with many fine—some of them quite expensive—engravings. The matter is a condensed summing up, of what has proved good, and most valuable in past volumes of GLEANINGS.

For prices and particulars concerning

Comb Foundation,

See advertisement in Oct. GLEANINGS. A new circular of Bee Hives and their fixtures will be issued in about 4 weeks.

My circular of about 300 leading Periodicals at CLUB PRICES, ready Dec. 1st. Send for it and save money. Agents wanted. J. H. NELLIS,
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Is a large, beautifully printed, and profusely illustrated MONTHLY; clear type and fine heavy paper. It is conducted by CHARLES NASH ABBOTT, Fairlawn, N., London, England. Annual subscription, half-a-guinea.

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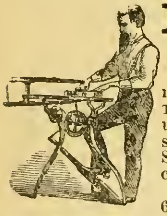

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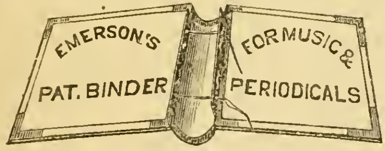

You cannot look over the back No's of GLEANINGS or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said—"Dear me what a bother—I *must* have last month's Journal and it's no where to be found." Put each No. in the Emerson Binder as soon as it comes and you can sit down happy, any time you wish to find any thing you may have previously seen even though it were months ago.

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25 " " " " " "	53c	13 25
50 " " " " " "	52c	26 00
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Machines for making sheets I foot wide -	$100 00
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TABLE OF PREMIUMS.

The first column is for those only, who send 5 or more names.

Names of Premium Articles.	*Prices of Premiums*	*Number of Subscribers required at* 75c.	*or at* 1.00
Any of them sent post-paid on rec'pt of price.			
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5—*Emerson's Binder for* Gleanings, *will hold 4 Volumes*	.50	6	3
6— " " *better quality*	.60		3
7—*Pocket Magnifying Glass*	.60	7	3
8—*First or second Volume of* Gleanings	.75		4
9—*Best quality Emerson's Binder for* Gleanings	.75	8	4
10—*Double Lens Magnifier, on 3 brass feet*	1,00	9	4
11—*Photo Medley, Bee-Keepers of America*	1,00	9	4
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BOOKS for BEE-KEEPERS and OTHERS.

Any of these books will be forwarded by mail, *post-paid,* on receipt of price.

In buying books, as every thing else, we are liable to disappointment if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them *for sale* it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage, shall not be disappointed, and therefore, I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with a *, those I *especially* approve * *; those that are not up to times †; books that contain but little matter for the price, large type and much space between the lines ‡; foreign §.

BOOKS ESPECIALLY FOR BEE-KEEPRES.

A B C of Bee Culture, see page 285	
Langstroth on the Hive and Honey Bee**†	$2 00
Quinby's Mysteries of Bee-keeping**†	1 50
Bee-keeper's Text Book*†....muslin	75
" " " " *†....paper	40
A Manual of Bee-keeping, by John Hunter*§	1 25
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An Egg Farm, Stoddard**	50
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Purdy's Small Fruit Instructor*	25
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Play and Profit in my Garden*	1 50
"Our Digestion," by Dio Lewis**	2 00
Onion Culture*	20
Potatoe Pests, by Prof. Riley **	50
Practical Floriculture*	1 50
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Strawberry Culturist, Fuller*	20
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Forest Tree Culturist, Fuller*	1 50
How to Build Hot-Houses, Leuchar§	1 50
Draining for Profit and Health, Warring	1 50
What I know of Farming, Horace Greely	1 50
Injurious Insects, Prof. A. J. Cook**	10
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American Weeds and Useful Plants	1 75
Bement's Rabbit Fancier	30
Bommer's Method of Making Manures	25
Burn's Architectural Drawing Book	1 00
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Cooked and Cooking Food for Domestic Animals	20
Copley's Plain and Ornamental Alphabets	3 00
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Darwin's Variations of Animals and Plants, 2 vols	5 00
Gun, Rod, and Saddle	1 00
Harris on the Pig	1 50
How to Get a Farm and Where to Find One	1 25
How to Use the Pistol	50
Jennings' Horse Training Made Easy	1 25
Johnson's How Crops Feed	2 00
Johnson's How Crops Grow	2 00
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Leavitt's Facts About Peat	1 75
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Skillful Housewife	75
American Fruit Culturist, Thomas	3 75
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Farming by Inches, Barnard	38
Gardening for Money "	1 50
My Ten Rod Farm "	38
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Carpentry Made Easy, Bell	5 00
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Cotton Culture, Lyman	1 50
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GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

Vol. V. NOVEMBER 1, 1877. No. 11.

A. I. ROOT,
Publisher and Proprietor,
Medina, O.

Published Monthly.
Established in 1873.

TERMS: $1.00 Per Annum in Advance; 3 *Copies for* **$2.50; 5** *for* **$3.75; 10** *or more,* 60c. *each. Single Number* **10c.**

SOME OF THE TRIALS "BEE FOLKS" HAVE TO ENDURE.

THE latter part of July, I sent $5.00 to friend Blood, and in about two weeks received a queen by mail, but she was dead. Returning her promptly, he sent me another which arrived dead also. I returned them without delay, not having opened the cage in either case. Some time after, I received the third queen which arrived alive, to my great satisfaction; she was fair in color but not very large; but here came the *tug* of *war.* She was promptly liberated on combs of hatching brood, with plenty of honey and water in the hive; it was Saturday, the first of September; it turned suddenly very cool here and the hatching bees died about as fast as they hatched. There was also some unsealed larvæ in the combs, that crowded out of the cells, which together with the dying young bees was a very painful sight for a bee-keeper. I thought it would not do, and accordingly put in three combs with adhering bees and *caged* the *queen.* The next day I let her out, but the bees *balled* her, and I had to cage her again. So I tried to introduce her during the week, day after day, with the same result. I destroyed three lots of queen cells during this time: was that right? Saturday afternoon I released her again; in half an hour I tried to look her up but did not find her at once, and robbers being troublesome had to quit, and night coming on I left them. The greater part of the night I passed in thinking about queens, and much against my will, the picture of a ball of excited bees, enclosing in their desperate embrace, my queen, again and again floated across my mind, and disturbed the lull of slumber. Next morning early, I rescued her from the veritable ball and caged her again, finding her very hungry, and myself very blue.

A short time ago I read in the *Country Gentleman* an article on introducing queens: and the writer said that a great mistake was often made in introducing a valuable queen to a queenless stock; better unqueen a good colony to put her in. I therefore unqueened a good colony and gave them the queen in a cage; apparently they did not notice the change, but carried in pollen and honey as usual. Looking after them later in the day, but very few bees remained about the cage and I thought the queen might be liberated at once (especially after reading your own report in Sept. No). She was then released on the quilt, but the bees attacked her so fiercely in a twinkling all went down between the combs, and when last seen, one bee was on her back trying its best to sting. With the bellows smoker I again succeeded in rescuing her, but she looked sick, kept wiping her body with her legs, and I feared she was injured; however she lived, but seemed to be feeble, and I thought it unsafe to cage her more.

I put a division board in the first hive and let the queen out on two combs of brood, and shut them up. I then had to leave home, but in two days I examined them again. Bees and queen were lively, and I felt much elated: but alas, my pleasure was of short duration, the queen suddenly took wing, and away she went. I had tried her before on a window, and attempts to fly were not at all successful, but now—O dear! she could fly, and well enough too. As far as I know, up to date, *she* has never returned again, and my plan of Italianizing my bees this fall has failed. The queen I took from the second colony in the morning, I put back in her own hive the same evening, and she was killed in less than one minute.

One of my colonies produced drones with red heads as you describe; the queen is hybrid.

I must have another queen but will buy it in a nucleus and as near home as I can get it, and I will first practice more with *cheap* queens.

I commenced the season with 11 stocks in fair condition and have, up to date, sold 550 lbs. of honey. There is plenty of honey in the hives, and I have increased them to 36 good stocks, which satisfies me very well.

You remember the 58 lbs. fdn. which you made for me? I thought it was a great deal too much for 11 stocks, but I used all but 5 or 6 lbs. It is a decided success; if introducing queens were as easy and sure as the using of fdn., I would not have failed. My hives contain from 8 to 18 Quinby frames full of honey, bee-bread and bees. R. STAHLE.

P. S.—I made a promise, never to open a bee hive on Sunday and had kept it up to this time: but the imported queen came to hand on Saturday, and I, very anxious to do all I could, broke my promise in caring for her on Sunday and lost her, after all my care. Had I not done so, I could have fared no worse, and I now think I *would not* have lost her.

R. STAHLE, Marietta, O., Sept. 24th, 1877.

It seems that friend Blood too, has had some losses as well as the rest of us; and I am very glad indeed to find him so ready to make them all good. As he is a sufferer as well as yourself, friend S., I think it a duty of yours, to make your future purchases of him. He has sent you three queens that must have cost him $12.00 at least, and all you have paid him is $5.00.

When selecting combs of hatching brood, endeavor to have such as contain no unsealed larvæ, and you will have no loss of brood. The bees and queen should always be shut in the hive, and if the weather turns cold, take them into the house. They will very soon form a cluster about the queen and she will begin to lay. If they were kept shut in the hive until nearly a week old, it would be just as well for them. I have never known a queen to fly away and not come back, yet so many have reported losses like the above I think it would be well to clip the wings of all queens as soon as they are laying.

You should not have *allowed* the bees to kill their old queen friend S. Had you first fixed your smoker in nice trim, and had it right in your hand, I do not believe a bee could have stung her before you came to her rescue. Your work was probably all done just as the honey season was closing, and bees at such times are very difficult for anyone to handle. I sympathize most fully with you, as I think we all do, but perhaps your very lifelike narration of your trials, may be the means of saving many times the amount for others; so take cheer my friend, and practice a little with cheaper queens, before you get another imported one. I have long been wanting to say something in regard to handling bees on the Sabbath day, and I thank you friend S., for introducing the matter in a way, that comes right home to all of us. On the whole, I think I will step over to Our Home department with the whole matter, by your leave.

FDN., ITALIANS AND HYBRIDS, HIVES, HONEY, &c.

THE fdn. you sent me was fitted into frames in different ways; some were filled out in full, in others from ¼ to 1 inch space was given between fdn. and sides and bottom of frames. I find ¼ inch at sides, and 1 inch or nearly this amount, is advisable for bottom, giving ample room for sagging. Eggs were found in cells 12 hours after given to the bees; such a nice sight, so perfect, so smooth and level when sealed over as brood or honey. Some frames of fdn. were placed in an empty hive and a large swarm put on them, which by their great weight and the heat generated, caused one comb to sag giving the cells in the upper part of the frame an oblong shape: yet the queen deposited eggs in these cells, which I expected would be developed as drones, but they were sealed up as worker brood and matured as such, being no larger than bees from ordinary cells. Possibly there would be no sagging at all, if fnd. were placed in hives alternately with filled combs, and the hives shaded and well ventilated for a few days. If $2.00 worth of fdn. will fill the frames in the brood apartment and put starters in the section boxes, and a swarm be hived on them, we shall have $5.00 worth of surplus honey ready to come off before a swarm would fill the brood apartment when no start is given; making a clear gain, at once, of $3 00 for $2.00 invested in the fdn., to say nothing of the satisfaction of ever after having a beautiful set of combs free from drone comb, save such quantity as the apiarian may see fit, under the varied circumstances, to give his bees. In the aggregate, thousands of dollars are annually lost to bee-keepers by the useless hordes of drones allowed to be reared and tolerated in the hives. Instead of our bees consuming so much time and feed on these "dead heads," they would do better to turn their whole attention to rearing workers that will fill the combs instead of emptying them.

HIVES.

I have been experimenting nearly all my life, with different styles of hives, and have tried nearly all shapes of frames. To sum up, my conclusion is that the Langstroth hive, or the same simplified as you now make them, is for all purposes the very best. This hive question is not my hobby, but the kind of bees to put in the hive for large yields—tons of honey—is what I think of most. Bees should be first considered, hives second.

BEES.

You will agree with me that there is a vast difference in the honey gathering and comb building propensities of different colonies, and different strains of bees; some strains of blood will show their superiority for several generations, it matters not whether of black bees, Italian or their crosses. We think there are more poor colonies produced in a given number by the black bees, among the Italians a smaller per cent of poor workers, and in their crosses but few colonies will be produced that are indifferent workers. I reared some queens last fall, a few of which were reared from an impure mother. and they produced one half black bees. For the sake of testing the merits of these miserable looking things I suffered them to take their chances with my pure bees, and as you have "been there" with bees of this stripe, it is scarcely necessary to say they were able to "hoe their own row."

They were equal to any emergency: none of the "bright beauties," not even the bees from my imported queens could "get away" with them. They got off as "big" swarms as early, made as much honey, and filled up empty space just as fast as anybody's bees. I know a few of them would always be ready to sing a fine, very fine, song close up to my nose whenever I took a walk in the bee yard; more especially would they get pressingly familiar with my visitors, and you know how annoying this is to one who likes to have folks enjoy a "look at the bees."

It is this peculiar dash of wicked ugliness that makes this class of bees distasteful to me. Happily we have discovered a class of bees that are equally as good honey producers and comb builders, without this fearful propensity for stinging and nosing into other people's business. I allude to the progeny of our imported queens and the progeny of their daughters. The workers can not be surpassed in any respect and will seldom volunteer to sting unless driven to do so by rough treatment. The bees stick tight to the combs while frames are being handled and seldom require to be smoked to keep them down while an examination of their "wares" is going on.

We do have some trouble in getting them off the combs for extracting, but since the advent of fdn. and section boxes for comb honey in such desirable and salable shape, it is a question whether or not much extracting will be profitable.

OUR OWN APIARY.

We started the season with 40 colonies; increased to 70 and have taken over 3000 lbs. honey; about one-half extracted and one-half in boxes. The extracted was mostly obtained by extracting from the outside frames which were not covered by boxes, and I think I got almost as much honey in boxes as I would have done had I not taken any with the extractor, as the emptying of the two outside frames from each colony did not stop comb building in boxes. My crop is nearly all sold at 18 to 20 cts. for comb, and 16 cts. for extracted.

My friend Richard Reynolds. of East Springfield, had all his honey built in section boxes which he soon found sale for at 20 to 25 cts. per lb., while his neighbors found it difficult to sell honey in old style boxes at 16 to 18 cts.

EXTRACTED HONEY.

Some complain that their honey sours on their hands; I have no trouble. When extracting I throw the honey, just as it comes from the machine, into open headed barrels; and as there is always, during a yield, some thin or unripe honey, this will rise with all other light substances, as bits of comb, &c., to the surface, which must be skimmed off occasionally, leaving only the good honey which will not sour if left uncovered till cool weather. Good honey will get fearfully thin in very warm weather, but will get thick when the temperature falls; so do not be hasty in concluding all is going to sour.

NUCLEUS HIVES,

should be seen in operation in every well conducted apiary, as early as weather will permit in the spring. It will pay largely to have laying queens ready to give stocks that have cast swarms. The secret of success in getting box honey is a laying queen on the brood combs at all times. See a hive queenless and not working in boxes, just give them a plump laying queen and note how quickly the bees will be seen "chawing" out the combs from the place where they left off bluntly. This is a good way to get your "dollar" for a queen if no customer is after her who is sharp enough to see the point.

J. A. BUCHANAN.

Wintersville, Ohio, Aug. 20th, 1877.

I agree with our friend, almost entirely, and this particular point in regard to hybrids is one that really troubles me. My best yield of comb honey, both this season and last, was from hybrid stocks; and in selling off all my hybrid queens, I have more than once felt, that I might be selling my most profitable ones. They are vehement in stinging, but they are also vehement in honey gathering and brood rearing, and I really admire their energy, while I lament their—want of common sense, I guess I shall have to term it, when one tries to look over their " wares ," say in the fall of the year. While preparing our bees for winter, I at first thought I had found the key to their extra amount of comb honey, because several of them had almost nothing in the brood chamber, while the Italians had the brood combs filled and the honey stored round the cluster, in a most provident way. Now, only last evening we found a full blood Italian colony that had stored in the sections, with almost nothing in the brood combs, while the worst stock of hybrids in the apiary had enough in the brood combs to fix both nicely for winter. The latter case is, it is true, an exception, but it indicates it would be well to go slow, in entirely discarding hybrids.

FEEDING EXTRACTED HONEY TO GET SECTIONS FINISHED OUT.

We have just finished demonstrating that this will pay, and pay well. If you have sections full of empty comb, you can get as much as 9 lbs of sealed comb honey, for every 10 lbs of liquid honey fed, after you have fed enough to get the brood combs filled. But after you have fed them about 100 lbs, they get "tired," and will not notice even nice clover honey. A colony of full bloods and one of hybrids was used for the experiment. The Italians went far ahead of the hybrids, and yet were no more than half as strong. Now comes a funny feature; the hybrid stock was composed of black bees, one and 2 banded bees, and finely marked Italians, all the progeny of one mother, of course. Well, the black bees first stopped work in the feeder, next the one and 2 banded, and to-day if I wanted to show a visitor some of the finest Italians in the apiary, I should uncover this hybrid stock, and let him see the bees at work in this pan of honey. There they are, gentle and finely marked, while their own family of blacks below, are as ugly as they well can be. The Italians are certainly far ahead for a "big job."

FERMENTATION OF HONEY.

ITALIAN queen rec'd on the 21st as lively as a cricket, introduced the same day with success, and to-day has combs filled with brood and eggs. I have been a constant reader of GLEANINGS, from Vol. I to Vol. V, and have not in any of your teachings found a word concerning fermenting honey, the cause, or remedy. I extract from the frames of comb only when they are sealed, place the extracted honey in open tanks to settle, then draw off and barrel. I find the honey more or less in a state of fermentation. But whether it is caused by the extreme heat we experience here down South, in the months of July, August and September I am unable to say. My extracting room is a 12 foot octagon, facing south, east, west and north, with two doors and four windows, all of wire cloth; and from this arrangement I have a constant breeze circulating through daily, but still my extracted honey ferments.

I should be pleased to know if there are any of your thousand of readers who have ever experienced the same, and if there is any remedy to prevent honey from fermenting after being extracted from capped combs. I have, frequently, when manufacturing sugar, after the molasses had drained from the sugar, and become fermented, prevented the same with the fumes of sulphur. JAMES A. PRITCHARD.

Iberville, La., Aug. 29th, '77.

If our friend means that fermentation takes place to such an extent as to make the honey sour, it is certainly something rather unusual, with honey capped over before being extracted. If he means that it froths and oozes out of the cans and barrels simply, without having its flavor impaired, it is quite a common occurrence with some honey. The only remedy for all such "antics" that we know of, is to seal it up hot like fruit, in fruit jars. It has been suggested that the minute grains of pollen contained in the honey, act like yeast, inducing fermentation; hence, heating the honey to about the boiling point, or exposing it to a freezing temperature, kills these yeast germs, and stops the mischief. The fumes of sulphur, or sulphurous acid, are also death to this yeast plant, and we therefore prevent cider from "working," by simply burning sulphur in the empty barrel. Honey does sometimes ferment, even when sealed up in the combs; I saw a comb during the prevalence of the bee malady, a few winters ago, that was so filled with fermenting honey that it had burst the caps of the cells and was oozing out in the form of a thin watery froth. No wonder that the bees died. I then supposed it to be because they had gathered late thin fall honey, but I now think if the combs had been *well covered* with bees, in a hive with warm porous walls, they would have fixed it just as nicely as our mothers do their preserves by scalding; for I have since fed bees thin sour honey, and if too much is not given them at once, they will fetch it back to sweet honey.

AN IMPROVEMENT IN MAKING CHAFF CUSHIONS.

I BEGAN the season of '76 with 5 colonies; increased to 11, and extracted 550 lbs. white clover honey, all of which was fully ripened in the hive and capped over. By the way, I think such honey equal to any box honey, if not superior, and it brings about the same price here. My hives hold 12 frames, and I use a division board of duck tacked on a frame and suspended the same as a frame of comb. For wintering, I use 8 frames, placing a chaff cushion in the end of the hive and one on top of the frames. My 11 colonies, all strong, thus prepared came through the winter all right, and on the first of March were much stronger than when put up in the fall. I prepare my cushions in this way: I take very thin muslin, 40 inches wide, fold it and cut the length I want it; this makes three seams to run up, which is very quickly done on a machine. Now I fold the corner of the pillow, diagonally to the seam, and stitch across the corner four inches; do the same with the three remaining corners, turn the slip, fill it with chaff and I have a square pillow four inches in thickness, that just fits my hives, and saves all the trouble of sowing in a strip four inches wide. Well, I have told "What I know about chaff cushions" at some length, and will stop short off to say good-by. A. C.

Johnstown, Ohio, June 9th, 1877.

A chaff cushion to fit snugly inside the upper story, should be a square box of cloth, just the size of the space it is to fill; and we, some time ago, mentioned that we made them by using a band of cloth for the sides, with a square piece of cloth for top and bottom. The plan furnished by our friend above, avoids the use of so many pieces, for the entire case is made of one piece of cloth, and there is very little waste. If you fail to get the idea, take a common pillow, and push in one of the corners; close the sides together, so as to make an upright seam. and by doing the same with each corner, we shall have a box of cloth.

Last spring I purchased one colony of Italian bees, in a movable frame hive—Am. frame—but not knowing anything about bees or hives, and the frames being so badly united with combs and bee glue, I used it as a box hive, with box for surplus honey on top. For this colony and hive I paid $6.00. The weight of hive and bees, when purchased was 78 lbs. On the 17th of June they threw off their first swarm, a very large one, again, on the 26th of June, another good sized swarm. These were all hived in common box hives. From the parent swarm, I obtained 35 lbs. of box honey, from first swarm 45 lbs., second swarm 25 lbs., third swarm 10 lbs.; making in all, 115 lbs. from the one swarm and their increase. Honey is worth here 20 cts. per lb. and 115x20=$23.00; 4 colonies say $6.00=$24.00; deduct from this, cost of bees and hives =$12.00 and we have $35.00 profit from the one swarm. Honey pasturage here is white clover, buckwheat and prairie flowers. My hives at this time are full of bees and honey. Next spring, I think I will transfer to the Simplicity hive. Would you *advise* me to do so?

JOHN C. FOWLER, Ashkum, Ill., Oct. 8th, '77.

GETTING OFF SECTIONS, HIVE MAKING, DOOLITTLE'S HIVE, BOTTOM BOARDS, &c.

I WANT a little light on a few questions that I have not seen touched upon in GLEANINGS. How do you manage to get your sections capped over, and then how do you get them off without getting them uncapped? My bees would not cap the sections all over, though they were in the hive (lower story) a long time; and when I wanted to take them out they all fell to uncapping and filling themselves as fast as possible; now, how can this be prevented?

The sections will all be nicely capped over, if the yield of honey continues; if it stops, they will remain unfinished, unless you feed. If you remove the sections while honey is coming in, the bees will make no attempt to uncap them, and the full blood Italians will scarcely ever at any season. After the yield has stopped, the blacks and hybrids, will "grab" for every drop, just as soon as they get an idea you are going to take it away from them; and your only remedy is to shake them off just as soon as you get the hive open, if you do not want the caps to the cells full of their ragged perforations.

You tell us how the new style of bevel is cut but do not tell how to cut them. How do you make the sliding platform, or don't you use any at all? If I have any hives made the coming winter I want them made right. Now, another thing right here; if your hives are halved in at the corners instead of made on a mitre don't you have an open space, caused by the bevel, to fill up with putty? I should think so. You know what you said about mitred corners in Vol. II. I think you were about correct.

Since we have used the iron guage frame, we put all hives together on a mitre, and for the very reason that the covers and upper stories may fit with a water and wind proof joint. When properly nailed, they are very strong. Hive making will soon appear in the A B C.

Please tell us how to make division boards such as Doolittle uses (not chaff cushions). Since reading Cook's Manual and Mr. Doolittle's articles I have had quite a leaning toward the Gallup frame, and the report from Mr. D. in Oct. GLEANINGS has almost converted me, but before I become a convert I want to ask if Mr. D's success is not more due to his skill and a *good locality* than to the hive, though he gives the hive the credit? Five hundred and sixty-six lbs. extracted honey is an enormous amount for one hive.

Friend Doolittle's division board, is only a ¼ inch division board, and is stationary; see page 7. Slots are cut through it to allow the bees passage into the side boxes. I think it is his skill, energy and industry, rather than his hive or locality either. Questions like this, it seems to me, we are all, in a measure, compelled to answer ourselves, individually. If you can not decide, get a hive and try it. I believe friend D. rather prefers you should try one before investing in them largely. His plan of working is with a small hive, and a very small brood chamber. His largest form of hive, contains only 30 two lb. boxes, and he therefore is obliged to be on hand almost at the very minute they begin to be crowded for room, to take out the filled sections and to put in empty ones. I confess I like the idea; it is just what you must do if you are going to succeed. If you are one of those who will say, "I know my hives are full, a great many of them, but I really *can not* get time to take off the honey," you will never do to follow Doolittle. Now before we decide to give up our hives friend C., and take D's, had we not better take a cool square look at the matter. While his hive is about the smallest, Quinby used about the largest, and besides his very large brood chamber, he put on *at once*, boxes to hold over 200 lbs. After the enormous yields that Quinby and his neighbors made with these great hives, and after he sent out his circular stating that from one to two hundred pounds of comb honey, or from two to three hundred pounds of extracted could be realized on *an average* from each hive in one season, beginners were much inclined to throw up the hives they were already using, and adopt them. See page 104, Vol. II, and page 19, Vol. III. These hives are the direct opposite of Doolittle's. The one that gave 582 lbs. of honey was used with 32 of these large Quinby frames. In the hands of the average bee-keeper, the Q. hive has given just about the same results as other hives. Capt. Hetherington with his apiary of over 1000 hives, takes the large frames, and the large hives; Doolittle has the other extreme. Whom shall we follow? I think we can test their ways of working, generally, with the hives we have, but it is quite likely we shall many of us, never be able to equal their work, even if we had their hives, locality and all. Notwithstanding, we are going to *try* hard; are we not?

How do you use your bottom boards when you winter in cellar? It seems to me they are not so convenient as a plain board with a slot ⅜x4 inches in front of hive for an entrance. How do you carry hives to and from summer stands? take the hive and leave the bottom board?

The season has been poor here, very fine in the spring but too dry all through the summer and fall. Fall flowers have not yielded much. Basswood almost nothing. Have 8 stands; 7 are Italians and hybrids, 1 black. F. W. COMINGS.

East Berkshire, Vt., Oct. 2d, 1877.

When moving Simplicity hives, to close the entrance we simply push the hive back on the bottom board until the entrance is closed; have carried the hives in and left the bottom boards, but once in a while we find a colony that "boils" out with such treatment. A bottom board must be cleated to prevent warping; it should also be raised up from the ground a little, and we want it closed all round so that neither bees, toads nor anything else can get under. Taking all into consideration, is it not simpler to have bottoms and covers, all one and the same thing?

BEES IN THE HOUSES AND GROCERIES.

WHAT measures can you suggest for keeping bees at home and preventing their wandering into stores, &c., and getting lost? I am losing numbers daily in this way. Please answer in GLEANINGS. J. H. THOM, M. D.

Garafraxa, P. O., Canada, Sept. 25th, 1877.

During a severe drouth such as we have just had, it is one of the problems, to tell what to do. To try to keep peace with our neighbors, we wrote the following for our Medina paper.

ABOUT THE BEES.

I am very sorry indeed that some of our towns-people have been annoyed by the bees during this severe drouth we are having. When the flowers are all dried up, as at present, bees are pretty apt to look about to see if an honest penny can not be turned, elsewhere; for they are proverbially averse to loafing, as everybody knows. They have one other peculiarity, which it may be worth while to consider, and that is, that they very soon abandon any speculation that does not pay. If you want them all to go home quietly, simply make their business at your store or home, an unprofitable one, and they will very soon leave, I assure you. If they are at work at your peaches, preserves, sugar bowl, candies, baskets of sweet grapes or the like, cover up the articles precisely as you would if flies were to be kept away from them. If you are making preserves or canning fruit, stop the first bee from getting off with a load, and no more will come; if you have neglected to do this, and they have already started a "land office business," you will have to close the doors and windows until they abandon the job, which will be in a couple of hours. If it is hot weather, mosquito netting will do the business nicely. The same fabric or some nice pink tarleton, will do nicely to cover fruit or confectionery in our shops and groceries. This has been done in cities for years, and it is worth all the expense, to have such goods kept entirely from the flies in the fall of the year.

Am I asking you to take a great deal of trouble? Yes, I fear I am, and therefore, I prefer that you allow me to pay all expense of trouble and material. I love law and order, and dislike to have anything that belongs to me, trespass upon the rights of anyone; and if this matter can not be arranged pleasantly, I will move both myself and bees out into the country; for where my bees are, there shall I be. I dislike to do this, for it would inconvenience those in my employ very much, and our town has far too few manufacturing establishments already. Still farther, you would be troubled with bees still, for others beside myself keep bees, and I have several times been called when it was the common old fashioned bee that was troubling. I do not blame you for feeling cross when you accidentally get stung, for it makes me cross too, sometimes, and I can scarcely blame you for thinking that it is my bees when I have so many; but my friends, my yellow bees never sting when away from home, unless they are pinched in some way, and made to do so in self defense. You can drive them out of your houses, just as you would flies.

I need hardly remind you, that my business is, at present, bringing quite a little money into our town, and that from a distance too; some of it, from across the ocean. Our boys and girls are even now, clamoring for something to do, and can we really afford to be frightened out of a thrifty, and rapidly growing business, by a few bees? You are to be judge and jury, and I will go away quietly and pleasantly, without any law or action of our town council, if it is your wish. Since I have become a Sunday school worker, I have learned the importance of being good natured, I hope. A. I. ROOT.

P. S.—While the weather remains so warm and dry, if you see a bee loading up with any of your property, you had ketter kill him before he gets home and brings a raft of his comrades back with him. I shall have no hard feelings toward you at all, if you throw the flat-iron at every bee that has the impudence to so much as take a squint over your garden fence to see whether you are going to preserve peaches to-day or not. A. I. R.

A BEE FUNERAL.

On Sept. 1st, I obtained from W. C. Grier in Lamar, (Mo.) an imported Italian queen which I proposed to introduce into what I considered the best hive I have. On the night of the 2d, I introduced her into the hive leaving her over night and in the morning of the 3d, I found the old queen, a black one, and taking her out I cut off her head and threw the body some 15 feet from the hive on the ground. I noticed no particular commotion among the bees until about 2 o'clock in the afternoon when I observed a procession of bees forming at the hive in a solid line and moving toward the body of the dead queen. They moved on and approaching the body surrounded it, and all with one accord as they approached the body threw up their wings in a peculiar manner and made every sign of grief and mourning. After a time they withdrew and returned to the hive. No further demonstration took place. Was this the result of instinct or reason? T. G. HARVEY.

There is nothing at all unusual, in the above, but friend Harvey has, I think, drawn his conclusions a little hastily. Bees do not always show signs of grief at the loss of a queen, but I have frequently known, even nuclei, when they discovered the queen was gone, to rush out of the hive, and search all over, even to crawling the distance mentioned, in search of the queen. I have also known them to find her body where I had thrown it, and in such cases, those who first find her, throw up their wings, and utter a call to their companions. The bees from the hive often hear this call, and come in a body; they will hang round the spot for a time, but after finding she is really dead, they probably conclude wisely, that what "can't be cured must be endured," and so they start off home again, and most usually in a body; as bees generally move in that way. If the ground about the hives is clean, as it should be, you will often see these transactions. When a queen dies of old age, you will often be apprised of the fact, by the small cluster of faithful followers who hover about her body where it has been carried out and dropped by some less impressible worker. In swarming time if the queen's wings are clipped, a line of workers will almost always guide you to her, if she has crawled off in the grass instead of back into the hive, and I once followed one, in that way, half across the garden.

BEES AND GRAPES.

My own and my neighbor's grapes are badly punctured, and of course spoiled in consequence. Bees are found in large numbers in the vines and evidently enjoy their sweets. Must they be regarded as the depredators? A SUBSCRIBER.

Knoxville, Tenn., Aug. 23d, 1877.

Bees do, at times, get started on grapes, and without a doubt puncture the fruit; yet it is a tough job for them, and they can easily be made to abandon it. If the grapes are ripe enough for the bees, they are ripe enough to pick, and should be taken out of their way. They started on our grapes just one season, but it was such up hill business they soon abandoned it for the fall flowers. A few days ago, I noticed a cluster that had been badly mashed in atempting to tear it from the vine; it was covered with bees. It was promptly removed with all the other bruised or punctured grapes near, and they did not again molest them during the season. Bees can be taught almost any kink of mischief, and when they get going, they are a "host."

GLEANINGS IN BEE CULTURE.

Published Monthly,

A. I. ROOT.
EDITOR AND PROPRIETOR.

MEDINA, OHIO.

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MEDINA, NOV. 1, 1877.

And be ye kind one to another, tender-hearted, forgiving one another, even as God for Christ's sake hath forgiven you.—Ephesians. 4: 32.

◆

FRIEND DOOLITTLE received for his white comb honey, 20c.; the dark or second quality, is to be, or has been sold on commission, so we cannot at present say what his whole crop netted.

◆

GOOD queens *can* be raised during the month of Oct., but so many are lost, it is hardly a profitable business. Had we taken pains to save a good lot of drones, very likely it would have made a great difference.

◆

THE beautiful engravings that help to explain the A B C, are the work of Stillman Co., Cincinnati, Ohio. See their card in this No. A pretty picture, is a joy for ever, but a bad one is a——sorrow for ever. Have they not done nicely on the basswood?

◆

WE have succeeded *this* month also, in sending every queen ordered, by return mail, and we remember of but one, of the whole lot, that was dead when received. This one was made good. With our new large cages, I think we can send them safely up to Dec., and perhaps later.

◆

MARCUS DUBOIS, of Newburg, N. Y., sends us a plan for making the roofs of old hives water tight by tacking a small tin through on the underside, just under the joint in the roof boards. The troughs are similar to those we use in the chaff hive covers; illustrated in last Nov. No. The idea is an excellent one, for a leaky roof will sometimes kill the best colony outright, and no amount of paint will make covers tight, when they are made of two or more boards. If it will accommodate, we can furnish tin gutters ½ inch wide, for ½c. per running foot. This device allows the wood to shrink and swell, which paint and matching do not.

◆

NOT one of all the large number of imported queens I have handled this season, has been lost in introducing, and I almost wonder at it myself. I presume the great secret is, that I made up my mind I could not stand the expense of losing a single one. A few days ago I purchased 6 tested queens of a neighbor, and lost 3 in introducing. I gave them to hybrids, and was in too much of a hurry to look for them shortly after they were introduced, to see if they were all right. Now comes the "tug of war." I ordered 30 queens from Italy, but blunderingly arranged to have them reach here Dec. 1st, instead of Nov. 1st, as I had intended. Won't it be funny if some of them don't

THE SIMPSON HONEY PLANT.

HOW IT WORKS UNDER CULTIVATION.

I WISH to say something of this plant; *Scrofularia Nodosa.* It has a great many common names, such as Figwort, Square stalk, Heal all. Rattle weed, and Carpenter's square; the last two are the ones by which it is generally known in our section. The name Rattle weed is derived from the sound made by the ripe seed in the pod, when the stalk is shaken, being something like the singing sound of the rattle snake. We, in the summer of '76, took a stroll in the fields and wood to see what blossoms the bees were working on, as they seemed busy. We found them on the red clover, and particularly busy on this plant. Its blossom is so small that a bee can scarcely get its head in, but can get to the honey without much effort, with its proboscis. I noticed, too, the drop of honey at the bottom of blossom that had not been visited by the bees that were so eager to sip it, for we found on most of the plants from 2 to 10 bees, all busy and contending for the precedence. We, at the time, wrote in our memorandum as follows: "We find that the plant, Carpenter's square, affords a great deal of honey, is much sought for by the bees, and is worthy of protection and cultivation as it grows well in waste places and hedge rows."

I, in the fall, procured a root and planted it in the garden, but forgot all about it until it was called to mind by GLEANINGS. I then looked and found the plant all right, and by the first of July it was beginning to bloom, and such a stalk it did make; 8 feet high, with about ten spikes, making not less than 15 to 18 feet of flowers, the middle or top spike being about 3 feet long. Now these were not all open at once, but lasted from the first of July till the first of Oct., visited by bees and other insects from "early morn till dewy eve." In fact we have found bees gathering honey from this plant before sunrise just at day light, and in the evening after sundown when so nearly dark they could scarcely see to fly.

We have been so pleased with it that we have taken the precaution to collect some of the seed, which we find is very small, not as large as tobacco seed. This plant is a perennial, will come up from the root every year and needs but little care except protection from the cattle, as they will break it down. We shall plant a lot of roots in our lot or garden this fall, and make further observations. If any of the bee-keepers are willing to try it we will send some seed by their paying postage, or will exchange seed with others that have something new. JOS. C. DEEM.

Knightstown, Ind., Oct. 13th, 1877.

Humbugs & Swindles.

Pertaining to Bee Culture.

[We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.]

MRS. LIZZIE COTTON is again at work full blast, wherever she can find a periodical that will publish her falsehoods. Her latest, by some means, has got into the *Weekly Sun*, and although a later issue sounded the warning, many dollars will doubtless be lost by the too credulous. See her record in back No's and Vol's.

One of our subscribers, we are sorry to say, is blackmailing his friends and neighbors by demanding money for the right to use the Am. hive. We dislike to give the person's name publicity but shall in our next unless he desists. Mr. King, years ago, announced the hive as public property, in the *Magazine;* furthermore, there never was a patent on any part of the Am. hive as it is now in use. The patented feature was laid aside in a very short time, as utterly worthless, and this is a very fair sample of bee hive patents in general.

The following has been added to APIARY.

There is still another advantage in the house apiary, and it is perhaps the most important of all. It is that the bees, honey and all the implements, can be easily kept under lock and key; a very important item where thieving is very prevalent. Where the apiarist becomes the owner of more colonies than can profitably be kept in one place, he can establish house apiaries at almost any point, and I have long had visions of a large central apiary, with 6 house apiaries arranged hexagonally all about it; say three miles from the center, and three miles from each other. I think they could be so managed that a visit once a week during the honey season would, as a general thing, be all that would be needed. Some loss would result from unexpected swarming, but this could in a great measure be obviated by the use of the extractor, or an abundant supply of sections furnished with the fdn. If located near a dwelling, some of the inmates would soon learn to hive the swarms, and look after things that might turn up. No one should think of undertaking this, until he has the ability, of first caring well for *one* apiary; and it can never be made a success, until we have entirely got over all such foolishness as allowing bees to starve, to remain a long time queenless, or to dwindle down from any cause, as too many of us now do.

With a good horse, and a trim light buggy, it would be very pretty work, riding about and overseeing these apiaries; but who among us has the ability to do it successfully? Instead of answering aloud, go to work quietly, and let your works be the answer.

WHICH STYLE OF APIARY TO ADOPT.

By way of summing up, I will state that with my present experience I would choose the Chaff hive apiary, for honey alone. For raising bees and and queens for sale, I would use the vineyard apiary and Simplicity hives, lifting the bees into Chaff hives to winter. If I were in a neighborhood where honey and bees were very likely to be stolen, or if I were going to locate an apiary away from home, I would choose the house apiary. Objections to the latter, are the inconvenience of handling hives that you can not walk all around, and the expense of the building. For general purposes I would use a vineyard apiary, with both Simplicity and Chaff hives.

Additon to CAGES FOR QUEENS.

Since the above was written, we have given the candy queen cages the most severe tests in the way of sending bees by mail, to all parts of the U. S., and while we have had some failures, we have succeeded in sending them safely, to Colorado, Canada, Miss., &c. At first we put only 8 or 10 bees in the cage with the queen, but it finally transpired that the more bees there were, the less was the mortality. We now put in from 20 to 30, and succeed, almost invariably. It seems that bees cannot use candy to good advantage, unless there is quite a cluster of them to furnish the necessary warmth; and when there is quite a little crowd in the cage, the moisture exhaled from their breath, seems to soften the candy, just about as they need it. If we have a very valuable queen, or the distance is great, we have been in the habit of giving the bees two cages fastened together. No loss has ever been reported, when put up in this way, and we therefore have made a cage of 1¼ inch lumber, with a 2¼ inch hole, that we think would keep the bees and queen safely a month, and we hope will enable them to go safely across the ocean. These large ones, can be made for about twice the price of the others; I think both should be kept in the apiary.

HOW TO CAGE THE BEES AND QUEEN.

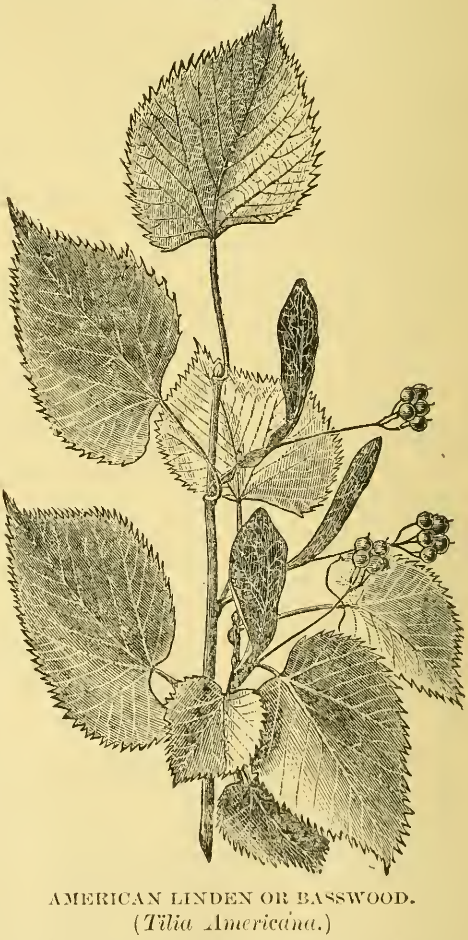
Open your hive without smoke if you can; if you cannot, use as little smoke as possible. When the bees have become quiet, lift out the frames until you find the one containing the queen, and stand it in the hive in the position shown in the diagram on page 211.

Set the frame so that the queen is on the part projecting out of the hive. Open the cage just as you see it in the engraving, and hold it in your left hand, while your thumb covers the entrance. Now pick the queen up by both wings, or by her shoulders, while you put her into the cage. Put your thumb over the entrance at once, or she will crawl out in a twinkling. Now we want none but young bees to put with her, so we will look on the frame, for those that are dipping their noses into the unsealed honey. As their bodies are bent, we have an excellent opportunity to pick them up by the wings, and with a little practice you should be able to put them in the cage about as fast as you would grains of corn. Young bees will never sting your thumb, unless they happen to be very bad hybrids, but old ones will sometimes venture to do so, if you happen to handle them too roughly. We mail them by tying around the cage a strip of stout paper, with a hole about the size of a lead pencil cut through over the wire cloth. This is for ventilation, and cannot safely be omitted, as we have found to our cost.

BEE-DRESS. Before the advent of the Italians, and the convenient smokers we now have, it was thought best to have a dress, or sort of "jacket" attached to the veil, with sleeves, for the protection of the operator, while working among the hives. Such things are I believe now almost out of date, with the exception of veils, and the gloves that are used to some extent. The veils, are many times, without doubt, useful; but I am so well satisfied that even a beginner will get along better and with less stings, with his bare hands than with any kind of gloves, that I have no hesitation in advising him to have nothing to do with them. Have your smoker in good trim, and there is hardly a necessity of your being stung at all. While I cannot think it best to advise a dress particularly for bee work, I feel that it is a very wise precaution to have your ordinary attire of such a nature that bees may not get under the clothing; many severe stings are received in this way, from bees having no ill will at all, but only stinging because pressed by the clothing. When bees are shaken or dropped off the combs, they are very apt to crawl up ones feet, and I know of few things more annoying, than the sensation of a bee crawling up ones leg when he is too busy to stop and stamp until he drops out of his unpleasant (to all parties concerned) lodging place, or stings and has it done with, as he is pretty sure to do if you are not careful. If you wear flannels, and have them tucked inside your stockings, this cannot happen; or if you wear boots and have your pants tucked in your boot tops, you are bee proof in this respect. I prefer low shoes in the summer, and light clothing for out door work, and when I am going to shake bees off the frames, I always put my pant legs inside my stockings, even at the risk of being stared at by visitors. If you are obliged to handle bees in cool weather, or so late in the day that they have ceased flying, they are very apt to crawl under your coat or vest, and sometimes up your sleeves. I do not mind the stings so much as the time it takes to get them out; and I dislike to run any risk of carrying them into the presence of others, who may not be so indifferent to stings as I am. Some years ago, I wore shirts that buttoned up in front, and the hybrids seemed especially fond of getting inside my shirt whenever I particularly desired them outside. I am not partial to new fashions in clothing, and when my wife made a shirt that buttoned down the back, she rather expected a sermon on the folly of —well, she heard in place of objections, a declaration that I would never wear any other, because they were bee-proof. For the same reason, I prefer the sleeves close at the wrist, and my whole clothing in general, so close and free from openings that a bee can crawl up my shoes, and go clear to the top of my head and fly off, without any trouble to either himself or myself, on the principle of, "live and let live."

When at work among the hives, if bees are scattered about on the ground, I am always careful about stepping on them, or so near that they may crawl up my person; and nothing makes me more nervous than to have visitors, who will walk right among them with their careless feet, crushing them into the dust. If it were right to return evil for evil, I should sometimes think it were good enough for them, if they did get a sting or two. The natural home of the honey bee is the forest, and if they consent to take up their abode on the ground at our very doors, we certainly should forbear stepping on them when we pay them a visit.

I have said nothing about the attire of ladies who work in the apiary, but I presume I have given them a sufficient idea of what is needed, to enable them to so arrange their clothing as to avoid stings as much as possible. When bees are coming in heavily laden, we should all have respect enough for them, to avoid standing in front of their hives, or walking very near to their entrances. If they are scattered about on the ground, step around them, and there will be very little danger of the stings that we often hear of, because a bee becomes accidentally entangled in the clothing.



AMERICAN LINDEN OR BASSWOOD.
(*Tilia Americana.*)

The above will enable any one to at once distinguish the basswood when seen. The clusters of little balls with their peculiar leaf attached to the seed stems, are to be seen hanging from the branches the greater part of the summer, and the appearance both before and after blossoming, is pretty much the same. The blossoms are small, of a light yellow color and rather pretty; the honey is secreted in the inner side of the thick fleshy petals. When it is profuse, it will sparkle like dewdrops when a cluster of blossoms is held up to the sunlight.

BEE-MOTH. It is very likely that the moth worm is, as has been so often stated, the worst enemy the honey bee has,—if we except ignorant bee-keepers—but if such is the case, we can consider ourselves very fortunate, for the moth is almost no enemy at all, to one who is well posted, and up with the times. When you hear a person complaining that the moth worm killed his bees, you can set him down at once, as knowing very little about bees; and if a hive is offered you, that has an attachment or trap to catch or kill moths, you can set the vender down as a vagabond and swindler. You can scarcely plead ignorance for *him*, for a man who will take upon himself the responsibility of introducing hives, without knowing something of our modern books and bee journals, should receive treatment sufficiently rough to send him home, or into some business he understands.

When a colony gets weakened so much that it can not cover and protect its combs, robbers and moth-worms help themselves as a natural consequence, but either rarely do any harm if there is plenty of bees, and a clean tight hive. If a hive is so made that there are crevices which will admit a worm, and not allow a bee to go after him, it may make some trouble in almost any colony; and I can not remember that I ever saw a patented Moth Proof Hive that was not much worse in this respect than a plain simple box hive. A plain simple box, is in fact all we want for a hive; but as we must have the combs removable, we must have frames to hold them; and if these frames are made so that bees can get all round and about them, we have done all we can to make a moth proof hive.

Of course colonies will at times get weakened; and with the best of care, with the common bees especially, worms will sometimes be found in the combs. Now if you have the simple hive I shall recommend, you can very quickly take out the combs, and with the point of your knife, remove every web and worm, scrape off the debris, and assist the bees very much. If there is an accumulation of filth on the bottom board, lift out all the combs, and brush it all off, and be sure you crush all the worms in this filth for they will crawl right back into the hive, if carelessly thrown on the ground.

If you keep only Italians, or even all hybrids, you may go over a hundred colonies and not find a single trace of a moth worm. At the very low price at which Italian queens are now to be purchased, it would seem that we are very soon to forget that a bee-moth ever existed, and the readiest way I know of to get combs that are badly infested, free from worms, is to hang them, one at a time, in the centre of a full hive of Italians. You will find all the webs and worms strewed around the entrance of the hive, in a couple of hours, and the comb cleaned up nicer than you could do it, if you were to sit down all day to the task.

HOW TO KEEP EMPTY COMBS SECURE FROM THE MOTH WORMS.

If you have Italians only, you may have no trouble at all, without using any precaution; but if there are black bees around you, kept in the old fashioned way, or in "patent hives," you will be very apt to have trouble, unless you "look out." Suppose, for instance, you take a comb away from the bees during the summer months, and leave it in your honey house several days; if the weather is warm, you may find it literally infested with small worms, and in a few days more, the comb will be entirely destroyed. Combs partly filled with pollen, seem to be the especial preference of these greedy filthy looking pests, and I have sometimes thought they would do but little harm, were it not for the pollen they find to feed on. A few years ago, we used to have the same trouble with comb honey when taken from the hive during the early part of the season; but of late we have had less and less of it and the present season—1877—I have scarcely seen a moth worm in our comb honey at all, and we have not once fumigated our honey house. I ascribe it to the increase of the Italians, in our own apiary, and those all about us, for the greater part of the bees in the woods are now partly Italian. These have driven the moth before them to such an extent that they bid fair to soon become extinct. Perhaps much has been also done, by keeping all bits of comb out of their way; no rubbish that would harbor them has been allowed to accumulate about the apiary, and as soon as any filth has been found containing them, it has been promptly burned. Those who take comb honey from hives of common bees, are almost sure to find live worms in them, sooner or later.

How do the worms get into a box of honey that is pasted up tightly, just as soon as the bees are driven out? I presume they get in just as they get into the comb taken from a hive during warm weather. The moth has doubtless been all through the hive, for she can go where a bee can, and has laid the eggs in every comb, trusting to the young worms to evade the bees by some means after they are hatched. This explanation, I am well aware, seems rather unreasonable, but it is the only one I can give. In looking over hives of common bees, I have often seen moths dart like lightning from crevices, and have sometimes seen them dart among the bees and out again, but whether they can deposit an egg so quickly as this, I am unable to say. In taking combs from the hive containing queen cells to be used in the lamp nursery, I have always had more or less trouble with these moth worms. The high temperature, and absence of bees, are very favorable to their hatching and growth, and after about 3 days, the worms are invariably found spinning their webs. If they are promptly picked out, for about a week, no more make their appearance, showing clearly that the eggs were deposited in the combs, while in the hive.

When the queen cells are nearly ready to hatch, I often hear the queens gnawing out, by holding the comb close to my ear; by the same means, I hear moth worms eating out their galleries along the comb, and more than once, I have mistaken them for queens. They are voracious eaters, and the "chanking" they make, when at full work, reminds one of a lot of hogs. As they are easily frightened, you must lift the comb with great care, to either see or hear them at their work.

Their silken galleries are often constructed right through a comb of sealed brood, and they then make murderous work with the unhatched bees. Perhaps a single worm will mutilate a score of bees, before he is dislodged. These are found generally at the entrance of the hive in the morning, and numerous letters have been received from new beginners, asking why their bees should tear the unhatched brood out of the combs, and carry it out of the hives. I presume the moth is at the bottom of all, or nearly all, of these complaints. If you examine the capped brood carefully, you will see light streaks across the combs where these silken galleries are, and a pin, or knife point, will quickly pry his wormship out of his retreat. As the young worms travel very rapidly, it is quite likely the eggs may have been deposited on the frame or edges of the comb. It is a little more difficult to understand how they get into a honey box with only a small opening, but I think it is done by the moth, while on the hive.

You may perhaps have noticed that the moth webs are usually seen from one comb to another, and they seldom do very much mischief, unless there are two or more combs side by side. Well, if you, in putting your surplus combs away for winter, place them 2 or more inches apart, you will seldom have any trouble, even should you leave them undisturbed until the next July. There is no danger from worms, in any case, in the fall, winter or spring, for the worms cannot develop, unless they have a summer temperature, although they will live a long time in a dormant state if not killed by severe freezing weather. I have kept combs in my barn two years or more; but they were not removed from the hives, until fall, and were kept during the summer months, in a close box, where no moth could possibly get at them. I have several times, had worms get among them when I was so careless as to leave them exposed during warm weather, and one season, I found nearly 1000 combs so badly infested that they would have been almost worthless, in less than a week. The combs were all hung up in the honey house, and then about a lb. of brimstone was thrown on a shovel of coals in an old kettle. This was placed in the room, and all doors and windows carefully closed. Next morning, I found most of the worms dead, but a few that were encased in heavy webs were still alive; after another and more severe fumigation, not a live one was to be found, and my combs were saved. I have several times since, fumigated honey in boxes in the same way.

After the bees have died in a hive, it should never be left exposed to robbers and moths,but should be carried in-doors at once, or carefully closed up. If you have not bees either by artificial or natural swarming, to use the combs before warm weather, you should keep a careful watch over them, for a great amount of mischief may be done in a very few days. I once removed some combs, heavy with honey, in August, and thinking no worms would get into them so late, I delayed looking at them. A month later, the honey began to run out on the floor, and upon attempting to lift out a comb, it was found impossible to do so. When all were lifted up at once, a mass of webs nearly as large as one's head was found, in place of the honey and combs. So much for not keeping a careful watch of such property.

By way of summing up, I would say: Use plain simple unpatented hives, get Italians as soon as you can, keep your colonies strong, be sure that none of them by any means become queenless, and you need have no solicitude in regard to the bee-moth among your bees. If you have spare combs, or comb honey that has been taken away from the bees in warm weather, keep an eye on it, and either destroy the worms as soon as they appear, or fumigate them as I have directed. When your eye has become trained, you will detect the very first appearance of a worm, by its excrement, in the shape of a fine white powder. We sometimes hunt them out thus and destroy them, when they are so small as to be only just visible to the naked eye. Giving your combs a good freeze, will answer the same purpose as the fumigation.

BEES. Every body knows what bees are I suppose, and therefore I need not attempt to give you a picture of them. If you contemplate becoming a bee-keeper, I would advise you to get a hive of them and then to use your own eyes and ears, to see if what I tell you about them is true. At present we have but two varieties of bees that are in common use for the production of honey, and with the vast difference in favor of the Italians, we shall very soon have only the Italians. The Egyptians have been tried in our country to some extent, but are I believe inferior to the Italians, besides being much more vindictive. Bees from the island of Cyprus have been talked of somewhat, but so far as I can learn, they differ but little, if any, from the pure Italians. Albino bees have also been talked about, but after testing them in my own apiary, I find them little different from the common Italians. The fringe or down, that appears on the rings of the abdomen of young bees, is a trifle whiter than usual, but no one would observe it unless his attention were called to it. The queens are very yellow, but the workers as honey gatherers, are decidedly inferior, even to the second generation; and when we select light colored bees or queens for several successive generations, if we are not careful, we shall have a worker progeny lacking as honey gatherers, and in ability to endure. By selection, we can get almost anything we want, and that quite speedily with bees, for we can produce several generations in a single season, if need be.

It is said in the South, that they have two varieties of the common or black bee, but it is quite likely they are one and the same thing, for bees in the same neighborhood, vary much in color; the bees of one colony may be almost a brown, while in another they are almost black. I shall speak in this book, of but two kinds, the black or common, and the Italian.

HOW BEES GROW.

During warm weather, while your bees are gathering honey, open your hive in the middle of the day, and put in the center, a frame containing a sheet of fdn; examine it every night, morning and noon, until you see eggs in the cells. If you put it between two combs containing brood, you will very likely find eggs in the cells the next day. If you have never seen an egg that is to produce a bee, you may have to look very sharp the first time, for they are white like polished ivory, and scarcely larger than one of the periods in this print. They will be seen in the center of the cell attached to the comb by one end. As soon as you discover eggs, mark down the date. If the weather is favorable, these eggs will hatch out in about 3 days or a little more, and in place of the egg, you will, if you look sharp enough, see a tiny white worm or grub floating in a minute drop of milky fluid. If you watch the bees, you will find them incessantly poking their heads into these cells, and it is likely that the milky fluid is placed on and about the egg, a little before the inmate breaks its way out of the shell. I infer this, because I have never been able to get the eggs to hatch, when taken away from the bees, although I have carefully kept the temperature at the same point as in the hive. These worms are really the young bee, in its larvæ state, and we shall in future call them larvæ. They thrive and grow very rapidly, on their bread and milk diet, as you will see if you look at them often. They will more than double in size in a single half day, and in the short space of 3 days, they will have grown from a mere speck to the size of a full grown bee, or so as to completely fill the cell. This seems almost incredible, but there they are, right before your eyes. I presume it is owing to the highly concentrated nature of this same "bread and milk" food, that the workers are so constantly giving them, that they grow so rapidly. If you take the comb away from the bees for a little while, you will see the larvæ opening their mouths to be fed, like a nest of young birds, for all the world.

After the larvæ is 3 days old, or between 6 and 7 days from the time when the egg was laid, you will find the bees sealing up some of the largest. This sealing is done with a sort of paper-like substance, and while it shuts the young bee up, it still allows him a chance to breathe through the pores of the capping. He is given his last feed, and the nurses seem to say, "There! you have been fed enough; spin your cocoon, and take care of your self."

I wish, my friend, I could tell you what happens after this, but I have not yet been able to see. As a general thing, the young bee is left covered up until he gnaws off the capping, and comes out a perfect bee. This will be in about 21 days from the day the egg was laid, or it may be 20, if the weather is very favorable; therefore he is shut up 13 or 14 days. Now there is an exception to this last statement, and it has caused not a little trouble and solicitude on the part of beginners. During very warm summer weather, the bees for one reason or another, decide to let a part of their children go "bareheaded," and therefore we find, on opening a hive, whole patches of young bees looking like silent corpses with their white heads in tiers just about on a level with the comb. At this stage of growth, they are motionless, of course, and so the young bee-keeper sends us a postal card, telling us the brood in his hives, is all dead. Some have imagined that the extractor killed them, others that it was *foul brood*; and I often think when reading these letters, of the family which moved from the city into the country; when their beans began to come up, they thought the poor things had made a mistake, by coming up wrong end first; so they pulled them all up, and replanted them with the bean part in the ground, leaving the proper roots sprawling up in the air. My friend, you can rest assured that the bees almost always know when it is safe to let the childrens' heads go uncovered.

As it is, many times, very important to know just when a queen was lost, or when a colony swarmed, you should learn these data thoroughly. For instance, it will be safe to say, 3½ days in the egg, 3½ in the larvæ, and 14 days sealed up.

The capping of the worker brood is nearly flat; that of the drones, raised or convex; so much so, that we can at a glance tell when drones are reared in worker cells, as is sometimes the case.

The young bee when he gnaws his way out of the cell, commences to rub his nose, straiten out his feathers, and then to push his way among the busy throng, doubtless rejoicing that he too is one of that vast commonwealth. Nobody says a word to him, nor apparently takes any notice of him, but for all that, they as a whole, I am well convinced, feel encouraged and rejoice in their way, at a house full of young folks. Keep a colony without young bees, for a time, and you will see a new energy infused into all hands, just as soon as young bees begin to gnaw out.

If you vary your experiment by putting a frame of Italian eggs into a colony of common bees, you will be better able to follow the young bee as it matures. The first day, he does little but crawl round; but about the next day, he will be found dipping greedily into the cells of unsealed honey, and so on for a week or more; after about the first day, he will also begin to look after the wants of the unsealed larvæ, and will very soon assist in furnishing the milky food for them. While doing this, a large amount of pollen is used, and it is supposed that this larvae food is pollen and honey, partially digested by the young or nursing bees. Bees of this age, or a little older, supply the royal jelly for the queen cells, which is the same thing as the food given the very small larvæ. Just before the larvæ for the worker bees and drones are sealed up, they are fed on a coarser and less perfectly digested mixture of honey and pollen. The young bees will have a white downy look, until they are a full week old, and they have a peculiar look that shows them to be young until they are quite two weeks old. At about this latter age, they are generally the active comb builders of the hive. When they are a week or 10 days old, they will take their first flight out of doors, and I know of no prettier sight in the apiary, than a host of young Italians taking their play spell in the open air, in front of their hive; their antics and gambols, reminding one of a lot of young lambs at play.

It is also very interesting to see these little chaps when they bring their first load of pollen from the fields. If there are plenty of bees in the hive, of the proper age, they will not usually take up this work until about two weeks old. The first load of pollen is to a young bee, just about what the first pair of pants is to a boy baby. Instead of going straight into the hive with his load, as the veterans do, a vast amount of circling round the entrance must be done, and even after he has once alighted he takes wing again, rushes all through the hive, jostles the nurses, drones, and perhaps queen too, and says as plainly as could words, "Look here! This is I; I gathered this, all myself. Is it not nice?"

We might imagine some old veteran who has brought thousands of such loads, answering gruffly, "Well, suppose you did; what of it? You had better give it to the nurses, and start after more, instead of making all this row and wasting time, when there are so many mouths to feed." I said we might imagine this, for I have never been able to find any indication of any unkindness, inside of a bee hive. No one scolds or finds fault, and the children are never driven off to work, unless they wish. If they are improvident and starvation comes, they all starve alike, and as I do delieve, without a single hard feeling or bit of censure toward any one. They all work together, just as your right hand assists your left, and if we would understand the economy of the bee hive, it were well to bear this point in mind.

Shortly after the impulse for pollen gathering, comes that for honey gathering; and the bee is probably in his prime, as a worker, when he is a month old. At this age he can, like a man of 40, "turn his hand" to almost any of the duties of the hive; but if the hive is well supplied with workers of all ages, he would probably do most effective service in the fields. see AGE OF BEES.

If a colony is formed of young bees entirely, they will sometimes go out into the fields for pollen when but 3 or 4 days old. Also when a colony is formed wholly of adult bees, they will build comb, feed the larvae, construct queen cells, and do the work generally that is usually done by the younger bees, but it is probably better economy to have bees of all ages in the hive.

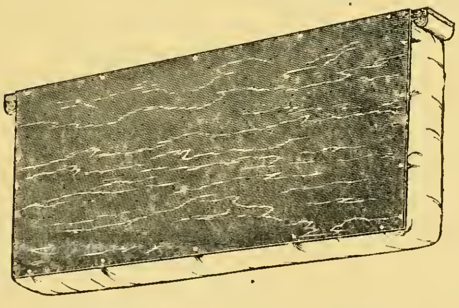
BUCKWHEAT. We have had reports from three different kinds, the black, the gray, and the Silver Hull. The two former are old varieties, and are much alike; the latter is new, and as usual, great things are claimed for it. We have had a piece near us this season; it has given about as much honey as the common varieties, but so far as we can discover, but little if any more. It bids fair to give a greater yield, and is therefore, perhaps, somewhat preferable. It will certainly pay for bee-keepers to raise buckwheat, and if they are not land owners, they can furnish the seed to the adjoining farmers free, or pay them a dollar or two per acre for the honey it yields. Although this is not a buckwheat country, I think it pays me, taking seasons as they come, to pay $1.00 per acre for all that is sown within 1½ miles of my apiary, and if there should be 50 acres sown, it would please me all the better. Some such plan as this, is probably the safest investment we can make in the way of artificial pasturage. The honey is dark, and but few people like the flavor of it, after they have used it a little time, but it seems perfectly wholesome for winter, saves purchasing sugar, all trouble of feeding, encourages brood rearing in the fall, and keeps the bees away from the groceries and dwellings, to a certain extent.

CULTIVATION.

Buckwheat will grow and blossom on almost any soil, but if you want it to *pay* for either honey or grain, it should have good rich land. It is sown broadcast, about 3 pecks of seed per acre. The best crop of buckwheat honey we ever had here, was from a piece prepared for and planted with corn. The corn was so nearly killed by cut worms that it was harrowed over nicely and sown to buckwheat in the latter part of June. This is almost a month earlier than buckwheat is usually sown here, but the yield was such that from the two acres, we had at least 200 lbs of comb honey, besides the large amount that must have gone into the brood apartments.

The bees that gathered the largest part of this, were dark hybrids; the pure Italians were at the same time storing white honey from red clover. It was amusing to see hives side by side both working in the section boxes, one of which made white combs and honey, like that in June, while the other built combs of a golden yellow, and stored it with the dark rich looking buckwheat honey. As the hybrids gave quite a large crop of this dark honey, I began to be a little partial to them, but after the boxes were all removed, I found they had put it all above, and left their brood apartment almost empty, while the more prudent Italians, had filled the brood combs until they were in excellent condition for winter. It has been several times advanced that the blacks and hybrids are ahead, when nothing but buckwheat honey is to be found in the fields.

DIVISION BOARDS. Make a frame of lath, precisely of the dimensions outside of the frame you use in your hive. As ordimary lath is 1⅝ wide, you will have a frame quite similar in appearance to the broad frames that hold the sections, except their being roughly made. When this is done, you are to tack stout cloth all round the sides and bottom as showen in the engraving, and as you tack it on, it is to be filled with chaff, so as to make a sort of soft cushion. You had better use duck for this purpose, as our division board may be required to stand some severe pulling, to tear it loose from the propolis, when it is to be removed. You will need to pucker or gather the cloth slightly at the corners, that they may not draw in when the board is finished. When this is done, nail securely on each side a thin board about 3-16 in thickness, filling in between the two with chaff. Now our board is finished when we have fastened a small roll of duck to each end of the top bar, to close the groove in the metal rabbet. To get this roll on securely and in neat shape, it is put on the top bar before it is nailed to the rest of the frame. The tacks that hold the outside end of this strip of cloth, are driven into the end of the top bar, and the cloth is then rolled over the heads so as to entirely conceal them; the other end, is nailed between the top bar and the end bar as, in fact, is the end of the long strip of cloth also.



CHAFF CUSHION DIVISION BOARD.

This division board, if made of the proper dimensions, should fit nicely and easily, in any hive. It will stand securely where placed, fits air tight even if the hives should vary a trifle in size inside, and yet can be always taken out easily, because the chaff cushions are yielding. When used to contract the space of a small swarm or nucleus, it can be easily pushed up until the bees fill their apartment, and it leaves a warm smooth flat side toward the bees. I prefer the board side to cloth, because if combs are built beside it, they are always smooth and flat, and the bees can never bite through the board, as they will in time through even duck, when used for a division board. If you wish to use them for dividing two colonies in the same hive, the division is perfect, and no bee ever gets round or over them, to kill a queen in the other apartment. But the principle use of these boards, is to fix an ordinary hive for out-door wintering. For this purpose, we put one against each outside wall of the hive; if the colony is not a full one, push them toward each other until it is a full one on a smaller scale, put your chaff cushion on top, and they are in a very good winter nest.

If you wish to feed a nucleus so as to build and raise brood during cool fall weather, you can do it nicely using these division boards. Place one on each side of the bees up to one side of the hive, and feed liquid food in the empty part, by means of the wooden feeder. Have the apartment for the bees contracted so that some will be crowded out around the entrance, and fold a sheet of duck so as to perfectly close the space above the frames. Get them to wax it all tight with propolis if they will. They will soon find the way to and from the feeder, by passing round the lower corner of the division board at the entrance of the hive, and as the warm air can in no way escape, they are to all intents, getting their honey from outside. With such an arrangement in Simplicity hives, I have been building colonies up beautifully during the present month of Oct., and by feeding nothing but a syrup made of grape sugar. Where the space was contracted so as to "squeeze" the bees out at the entrance, except when very cool, I have succeeded equally well, with but space for three frames.

BLUE THISTLE. This plant grows in great profusion in many of the Southern and middle States, but the principal reports seem to come from Virginia, and the valley of the Shenandoah. As it blossoms fully four months in the year, and produces a beautiful white honey, it would seem that it might well deserve a place among the plants on a honey farm. If we are correct it needs but little coaxing to cover whole farms, and in Va., we are told there are hundreds of acres of it growing wild, as a weed. Over 200 lbs of white box honey have been reported from it, from a single colony, in one summer. A field of blue is no doubt a very pretty sight to the bee-keeper, but to the farmers who find it a great pest, it may not look so handsome. We have really no right to make our honey farm a nuisance to the neighborhood, by bringing in foul weeds; so perhaps you had better take your bees down where it grows, instead of sending for seeds.

DEPOSITORY OF
Blasted Hopes,
Or Letters from Those Who Have Made Bee Culture a Failure.

AS you seem to be suffering for individuals to appear in "Blasted Hopes" you can put me there. This is the 3d year, each growing worse. Last fall I had 18 hives, have now but 16. Lost 8 in wintering, so the increase was but 6. Twenty-five lbs of honey covers all the surplus this year. One first swarm entered a hive that did not swarm, two swarmed twice and were then united. The other two were artificial, all were furnished empty combs. The strong colonies and weaker ones seem to be about all in equal condition. Last year I extracted all the honey and fed syrup or I should have had but little honey then. The year before was not much better. If I did not love honey, I should give up in disgust. I have, years ago, about a mile from here, taken as high as 75 lbs. comb honey from one hive. I used the section box in frames this year, and have the 20 lbs fdn. bought last year, still on hand. It was so much thicker than the sample received with sample section that I could not make it work in the groove. Next year there will be a box made in this vicinity with a dove-tail groove, so that fdn. of any thickness and no matter how cold, can be pushed in from one end, and will stay securely. I had thought of making some chaff hives, but the bees having nothing to do, amused themselves by gluing every thing together so solid that the only way to get out a frame in the upper story to start with, was to pry it all to pieces, and take it out piecemeal.

How would wintering on summer stands work, if they were not looked after at all and left with a snow drift over them from 3 to ten feet deep, thawing and freezing?

The cellar is damp although cemented, being wet, heavy clay soil. Some years they all pull through. Then one will be fairly boiling over with bees; the next all dwindle away from dysentery, with no difference, apparently, when put in, and when fed syrup, there was none in the food.

Hopefully yours for next year. E. C. NEWELL.
Brookfield, N. H., Oct. 15th, 1877.

What do you think Doolittle would do, friend N., if set down in your locality? The first sections we made, were on the plan you mention, but after a little practice, we decided our present way was just as good. Both fdn. and sections, are much improved since those you mention. We should consider the hives in excellent trim, under 10 feet of snow.

My bees did nothing this year; too wet and cold. Have had plenty to live on, but no surplus. Have not taken over 200 lbs from 70 stands. H. S. HOLLEMAN.
Fayettevile, Arks., Sept., 19th, 1877.

GRAPE SUGAR.

WE have fed 1 bbl. of the grape sugar. We have had samples from Milwaukee, from N. Y., and from Davenport, Ia., as given last month. The first cost 4c. per lb., and was very hard and white. This the bees will consume at a tolerable rate, if laid over the frames, providing but a small quantity be given them at a time, that the cluster be enabled to warm it up. The second, is white, and quite soft, but it has such a disagreeable taste—something like lard oil or glycerine—that I should not want it, even if the bees did. We have purchased 5 bbls. of the last mentioned at 3½c.; it is about the color of nice maple sugar, and tastes much like it, with the exception of the slight bitter taste. The bees take this so slowly in its solid state, that we have been obliged to use it as a syrup; it dissolves so readily, this is but a slight task. In this form, they will take it greedily, and even fight over it, and it will start comb building and brood-rearing beautifully, if fed regularly for several days in succession. It also seems perfectly wholesome, for colonies that have been fed on it entirely, do not spot the clothes washing days, as they often do after a frost, when they have unsealed stores.

Now comes a trouble: grape sugar is the worst stuff to candy, I ever saw or heard of. If you make a syrup as thick as common molasses, it will in a day or two, turn entirely solid; and if you make it still thinner, it will turn solid at the bottom of the dish, and leave the water on top. For this reason, it can only be fed in an open feeder like our wooden ones. When the weather is warm, it looks beautiful in the cells, but as soon as it turns cold, unless the colony is very strong, our honey is all frozen up, sealed and unsealed. The bees ripen and cap it over nicely, but imagine comb honey that won't bruise even if you knock it against a post! To see if the bees could use it in this state, we put a comb of it in the open air; they emptied it completely, but tore down the walls of the cells somewhat in so doing. Had it been in the hive, I think such would not have been the case, and I think the moisture of the cluster in wintering, will soften it as it does candy. The Davenport, Co. make a syrup at 5c. per lb that will not granulate; I shall test this also this winter, as far as possible. We will mail a sample of the sugar on receipt of 10 cents.

Heads of Grain,
From Different Fields.

IS there any test within the reach of ordinary bee-keepers, by which malignant foul brood can with certainity be distinguished from any other disease? If so, what is it? S. H. CLARKE.
Delavan, Wis., Sept., 14th, 1877.

When you find dead brood in the hives, which is in a pasty condition when the cells are broken open, emitting a strong disagreeable smell, you can be pretty sure it is foul brood. If it keeps spreading, and growing worse, you may call it the malignant form. I think it is now well established, that it can be got rid of, but it is sometimes a terrible task, in a large apiary.

I kept account of amount of honey from only one hive, which foots up 200 lbs. extracted honey.
C. C. SHIPP.
Spring Dale, Miss., Oct. 9th, 1877.

Bees working on fdn. nicely. Am extracting 200 lbs. daily. We are having a good flow of honey now, almost the first for this season. I have 58 swarms in 2 story L. hives. GEO. W. RIKER.
Zero, Ills., Sept. 8th, 1877.

My honey crop, so far, is only 8500 lbs. from 90 colonies in the spring, but white clover, which is our best honey plant, failed, and the fall yield is to come yet. I have increased to 200 colonies, allowing no queens but the daughters of imported ones. I produce only extracted honey and wax.
WILLIAM H. WARE.
Bayou Goula, La., Oct. 8th, 1877.

The comb fdn. is just the thing. From 6 colonies in the spring, I have increased to 12, and have taken 300 lbs of honey in small sections, which I am selling at wholesale for 20c, to the grocers. This has not been a good honey season in this section; my bees are blacks and hybrids. HENRY LIPPERT.
Meadville, Pa., Oct. 15th, 1877.

I do not feel like boasting or bragging about my bees this year; it is *work* from morning until night. I had, a few days ago, 700 stands, now have lost about 100. I had them on low land and they were doing finely; all at once I noticed there were no old bees in the hives. Whether they have been killed or died from getting bad honey, I do not know. You'd better believe California bee men look down hearted this year. E. E. SHATTUCK.
Los Angeles, Cal., Sept. 12th, 1877.

Queens arrived safely last saturday evening. I introduced one to a swarm of pure Italians, the other to cross hybrids; both were accepted all right, after 48 hours. We introduce on the plan given in the A B C. I learn my lessons as fast as you give them. Some time ago I gave a colony a queen without keeping her caged at all, while if those you sent had been let out in 24 hours, I am pretty sure they would have been killed. If, when we present the cage to the bees, they walk leisurely over the wire cloth, and offer the queen food through the meshes, I think we can let them out at once, safely, every time. ILA MICHENER.
Low Banks, Ontario. Sept,, 4th, 1877.

I have 4 frames of Italians covered with bees on both sides, and they are bringing in pollen every day. I am hoping they will fill four more frames this winter, as they seem to do very well on orange bloom.

W. H. Pilkington.

Jacksonville, Fla.. Oct. 10th, '77.

Our honey season began late this spring, it being about the first of July, since which in most localities hereabouts it has been quite favorable, although rather dry of late. I am caring for over 50 colonies and have them all in good healthy condition, having doubled them since spring. I have them in one or two different places. As an average of what they have done, let me say that from 6 hives we have 12, and have taken 550 lbs. of honey, mostly extracted. Some very fine apiaries in Salt Lake Co., have lost nearly all their bees from foul brood, which has prevailed in this Territory to a fearful extent and discouraged many, but not all of us, for we expect in this mountainous country to make bee-keeping a success.

Edward Stevenson.

Salt Lake City, Utah, Sept. 1st, '77.

TALL FRAMES, AND SHALLOW FRAMES.

I am a bee-keeper to the amount of about 75 stands; was very successful this summer, taking nearly 4000 lbs. of choice extracted honey. I must beg leave to disagree with you in regard to the L. frame, but am disposed to "knock under" if convinced that I am wrong, and will most cordially be a convert. I have two frames in my apiary this season; one is 10 and the other 15 inches deep, and both 12 inches wide. I run our apiary for extracted honey this year—1877—and I most emphatically got the most honey from the Am. frame. I find that the queen will use about the same amount of empty comb for depositing eggs whether the frame is shallow and wide, or tall and narrow, and the tall frames have more space above the brood in which to store honey. In extracting I search for the queen, cage her, then take every comb out of the hive, uncap and extract the honey; with proper help I consume only about 15 minutes, and by that time the bees are somewhat contented. I have seen stocks that were idle for want of room, in half an hour busy gathering honey.

S. S. Fetherolf.

Palestine, Ohio, Sept. 6th, 1877.

I think we agree exactly friend F., and the reason why you got the most from your Am. frame, is because you did not use the shallow ones, two story. Had you done so, you could easily have managed to have all the brood in the lower frames, and all the honey in the upper ones, moving the upper ones apart until the combs were so thick the queen could not use them if she would. Then, instead of having your honey in the upper part of the Am. frame, you would have it in the same position, but in separate frames so that it could be extracted without meddling with the queen or brood at all. The outside combs of the lower story can be extracted if you choose, but so many have starved their bees by extracting from the brood combs, I would advise no one to use the extractor on the lower story. With the drouth we have had this season here, many have found their bees ready to starve in Sept. where they extracted from the brood combs. With combs 2 inches thick or more, for the upper story, you save half the work of uncapping and extracting, save the bees a great amount of labor, have no trouble with young bees or larvae, run no risk of losing the queen, and you can give the bees any amount of room when they have a hive full of unsealed honey. Now do you want a tall frame with the honey and brood all together, or do you want a two-story hive to use with the extractor? One more point; when you uncover a two story hive, the bees, a great part of them, crowd down on the brood combs, and the labor of shaking and brushing is nothing like shaking bees from a comb of brood. With the large upper story room afforded by the chaff hive, the bees can all be shaken in the top, the combs taken from a former hive can be put right in, and the hive need hardly be kept open 3 minutes. Still farther, there is no such laborious stooping, as when we go down into the brood combs.

HOW TO KNOW A HIVE IS QUEENLESS.

The queen you sent me came all right Saturday the 25th, also your postal of caution about there being already a queen in the hive. I was suspicious of the fact and the next day after I sent my order I commenced searching for the queen. I found eggs in one comb but could find no queen. I then divided the stock into two, continued the search twice every day and did not find her until your queen arrived. Then I grabbed her for certain. I introduced the new queen successfully. When putting her in, she wanted to get out and I did not blame her so very much for objecting to the position of stepmother to a family of blacks.

David Wardwell.

Arlington, Ohio, Aug. 28th, 1877.

Notwithstanding what is said in A B C about being sure the hive contains no queen when introducing, I presume hundreds of queens have been lost this fall, from that very trouble. After queens have stopped laying for the season, it is very difficult indeed to find them, they are so small and dark. Again, a queen may have been lost while taking her flight; how are we going to determine, that we may introduce another? The only *sure* plan I know of, is to give them some brood, and see if they will start cells. If the queen *is* there, the brood will be pretty sure to incite her to laying; if she is not, they will start cells, and then you know just what the matter is. Do not risk a valuable queen in any hive, until you have seen them start queen cells. I wish you all would remember this.

QUEENS REARED IN SEPT. AND OCT.

One of the queens was used very roughly by the bees, on her introduction, and in about 15 minutes after, I found her in a cluster of bees at another hive, about a rod away. I caught her again and caged her, and it took me several days to get her safely introduced, but she is laying now and all right. Some of my queens did not lay until they were 20 days old, are they as good as any?

Daniel Wright.

Violet, Canada, Oct. 12th, 1877.

If a strange queen gets lost, you may often find her by examining the entrance of the hives near by. She will be found by the ball or cluster of bees that has gathered about her. Friend W., I am just now in a quandary about queens that will not lay until they are 3 or 4 weeks old. We have some that did not begin until a full month old, but the weather has been so dry, that even the old queens have all stopped, and we cannot make them commence again, without 10 days or two weeks feeding. This is nothing very unusual for the fall months, but many of the young queens lay only a few eggs and then stop; others seem to keep on laying, but the eggs never produce larvae. I, at first, feared they would prove drone layers, but several of them under the influence of a steady feed every day, have now nice patches of sealed worker brood. Some have no pollen, and these have reared brood promptly, when we fed them on the flour candy mentioned last month. These queens that are so long in becoming fertile, I shall preserve and properly test. My opinion is, that they will prove just as good as any, in the spring. If queens reared in Sept. and Oct. are not as good as others, it will be a fine thing to know it.

Those sections are "taking" here. H. O. Salisbury has his honey in 2 lb. boxes and he could not sell them where I have taken your sections. I sold my honey for 20 cts. per lb., and he only got 17½ cts. Expect to average 100 lbs. to hive this year.

FRANK SALISBURY, Jeddes, N. Y.

Tell D. B. Baker, Rollersville, O., that the Ratan is the best bee plant we have. It is a climber and commences to bloom the first of May, continuing about ten days.

M. H. DAVIS.

Howe, Texas, Sept. 10th, 1877.

In 8 days from the time I mailed a letter to you for an imported queen, I had her safely introduced. She is a beauty; I am *highly pleased* with her. Four of her little family were dead, but she was very bright and lively.

M. T. ROWE.

Pink Hill, Mo., Sept. 25th, 1877.

It was only after a siege of 5 days that my fighting colony were induced to accept your queen. I observed several things about it not noted in your A B C. Among them, that the queen flying off was invariably maltreated on her return. This was avoided by clipping a wing. Another was, that at first they seemed to receive and treat her well enough until the little Italians accompanying her got to flying about and coming in, when they fell upon them and despatched them in short order, and then commenced a general row. At present all quiet and doing remarkably well.

LAWRENCE JOHNSON.

Holly Springs, Miss., Aug. 13th, '77.

Queens are not invariably maltreated when they come back after having taken wing while being introduced. I have only had one such case out of a great number, and I once thought if we could introduce a queen by letting her come in from a flight, we were all right. It is very seldom a colony attacks the workers in the way you mention, and I should have much solicitude about the queen under the circumstances, even after she had been well treated for a week or more.

From 22 hives in the spring, many of them in poor condition, all black except three hybrids, I have increased to 36 stocks, in fine condition, and taken 1400 lbs. (1000 lbs. extracted, 400 comb) of fine honey.

J. P. SWARTHOUT.

Cyrstal Springs, N. Y., Oct. 2d, '77.

GRAIN BAGS FOR QUILTS.

In the June No. page 162, a correspondent wishes to know whether bees will gnaw grain bags or not, if used for quilts. As you have not had much experience in that direction we will give a little of ours.

The objections you mention have not, in the least, occurred with us. Last winter we tried burlap or grain sacking as well as other material for quilts. Our method is to cut out a single thickness about an inch larger than the inside of the hive. This we lay on top of the frames. The edges we lap over the upper part of the quilt. When this much is done we place a layer of chaff. I tell you it did splendidly; not a "bite" did the burlap get. The porosity of the sacking allowed all moisture to ascend and be absorbed by the chaff, while the bees were effectually kept below in as warm and snug a compartment as one could wish.

When the warm weather of spring had fairly set in, the bees began to glue over the side next them, thus keeping in all heat and securing warmth for early breeding. Although we have found absorbents of no great benefit in this climate we intend the coming winter to try cushions made of grain bags filled with chaff. Very likely the result will be as satisfactory as the last, and perhas some new features will be brought to light—at any rate we will report again.

U. K. LYPTUS.

North Temescal, Cal., Oct. 1st, 1877.

We have used the burlap, and it seems to do very well, so far. One would think to look at it, that the bees would tear it all in bits, but it is so open they hardly seem to care about eating holes through it as they do other fabrics. I think I should prefer the edge neatly hemmed or bound, if I were to use it largely.

Please send me some of those large yellow bees. I have no Italians nor have I ever seen one. Clover and basswood gave me but 42 gallons of honey. We had but 4 days yield from basswood, but buckwheat yielded well. I sell buckwheat, extracted, for 10 cts. per lb., and box 15 cts. These people do not like clover and linden honey, they seem to think I make it, not the bees. My entire crop amounts to $200., all sold and I have 65 stocks to winter.

WYATT MOREHOUSE.

Mombaccus, N. Y., Oct. 4th, 1877.

SOME WHOLESOME TRUTHS AND CAUTIONS FOR BEGINNERS.

I have spent some time looking around the country for bees this spring. I find a large percentage of bees have died during the past winter, and it is very difficult on that account to find any for sale; some have lost one-half, some one-third, some two-thirds, and some all they had. One man lost all he had in the American hive, and saved the Langstroth hives, and he has no more to do with the American; another lost all in the Langstroth and saved others. My opinion is if common farmer bee-keepers had never seen a patent hive of any kind, they would have been better off than they now are. Some have tried a half dozen different kinds failing to make a success of any. The prospect on the whole, this spring, is very discouraging to one just starting; though I am not a new beginner, for I was very successful for 15 years; wintering sometimes as many as 200. But now, those who claim to be *bee men* in many instances have failed. I know two men who got very enthusiastic last year, over their success. They had about 25 stocks each, part Italians; extracted a large amount, divided up, &c., and made 200 or 300 hives last winter and were going to reckon their honey "by the ton," after this. Now, one of them has 6 colonies, the other 8, and slim ones at that. Good enough for them; they took away the good natural food of the bees and made them pick up a little thin buckwheat honey mixed with juice from cider pomace, with some melted sugar to make up the complement. I think it a very easy matter to turn all improvements in bee culture to very bad account by mismanagement, but for all this abuse and failure, I am strongly in favor of *movable frames* and the *extractor*; but they must be used to *strengthen* colonies instead of weakening them.

N. N. SHEPARD.

Cochranton, Pa., April 16th, '77.

The two-story Simplicity hive you sent me, arrived to-day—six days on the road—all in good order. If the bees are as well pleased as I am we shall be a "*happy family.*" I am very much obliged for the starters, cushion and separators; they were more than I bargained for. Shall come again if that is the way you use strangers. I made a mistake in ordering it sent by freight; express would have been cheaper. The freight was $1.84.

RANDOLPH GRIMES.

Manteus, Ills., July 6th, 1877.

Your shipment of bee hives arrived by freight Sept. 10th—making 10 days in transit. All were packed in good order. I had no trouble putting them up and am highly pleased with them, especially the metal corners. I don't think I can ever tolerate any other. Our bees are getting lots of honey from golden rod just now.

S. R. LEUTZ.

Ullin, Ills., Sept. 15th, 1877.

I have 150 swarms of bees in Harbison hives, and I must confess, in my experience, I have seen no hives better calculated to kill bees in handling than his.

GEO. C. DOHERTY.

Bakersfield, Cal., Sept. 18th, '77.

The chaff hive came safely. I am pleased with it and would like 25 of them, but the freight on it was $2.20. I have put my best colony in it and they are working nicely. The honey season is about over here on account of the drouth. I am feeding my weakest stocks a little every night, using the tin feeder and syrup made of A sugar. The combs in most of the hives are well filled with brood and honey. My bees have done well; the strongest colonies (which were first swarms from old box hives) giving us 110 lbs. of surplus in small frames, which sold for 25 and 30 cts. per lb. I am pleased with GLEANINGS, which is my guide in bee-keeping from month to month.

MRS. A. B. SMEDLEY.

Cresco, Iowa, Sept. 3d, 1877.

The nucleus I got of you is now a fine large swarm.

G. E. HANNAN, Depere, Wis., Sept. 10th, '77.

I never heard or thought much about bees until I came across a swarm, one warm day in Feb., some 6 years ago, safely hived in a little oak tree. On my side, it was love at first sight; and I guess it was on theirs also, for they have loved to sting me ever since and I guess it is those whom we love most, we sting most. From that time on, I have been gleaning bee literature from all sorts of papers, but disaster followed and I lost my bees after keeping them about 11 months. I had cut them out of the tree, or rather trees, for by that time I had got two. Do you put your chaff cushions in the hive soon enough for the bees to coat them with propolis, thereby rendering them moisture proof? Or do you wait till cold weather sets in, leaving the walls open and porous that the moisture may escape into the chaff? Are you the man they call "Novice?" If so, I may be making a mistake in going to you for information, but then you see I *must* go to the "Root" of the matter.

CHAS. C. BELLOWS.

Vermillion, Dak., Aug. 16th, '77.

We never allow the bees to touch the chaff cushions; a sheet of duck intervenes. This duck does, in time, get covered with propolis, but I have not as yet been able to see that it does any harm.

I suppose I am "Novice," and I really hope I always shall be, to the extent of being humble and willing to be taught.

Let me know what is best to prevent bees from sticking wood with propolis. M. F. BASON.

Haw River, N. C., May 21st, 1877.

I really know of no means of keeping propolis from frames. Don't know but we shall have to stand it as it is. Greasing the wood with tallow, answers partially, but I think I prefer the propolis.

In the adjoining counties among the *mountains*, are bee caves. Some of them contain tons of honey when found. MRS. J. L. CUNNINGHAM.

Stricklinge, Texas, June 19th, 1877.

Well now, that idea of a "bee cave" has given us a new attack of the bee hunting fever. Would it not be grand fun?

I noticed in Sept. GLEANINGS that you had rec'd your queens from Tremontani. Your observations on imported queens are same as mine; that is, I, like you, have found that some of the queens are yellow and some small and dark, but you will find them to be larger and lighter after they begin to lay. Their progeny is fine and well marked, and they are really very prolific. Their daughters present the same features; some are light, and some even darker than the mothers, but as a general rule they reproduce themselves well. I have raised about 50 daughters since July, and all, with the exception of 3, are like the mothers. Those 3 are small and very dark, though prolific and producing fine and well marked workers. I have not yet found one of my imported queens to produce workers with only two yellow bands.

PAUL L. VIALLON.

Bayou Goula, La., Sept. 12th, 1877.

Bees nearly all died 4 and 5 years ago, when they gathered honey from the so called Jack Oak. They have done the same this fall. J. E. JARRET.

West Point, Iowa, Oct. 6th, 1877.

Was it honey dew? Please tell us about it.

The queens rec'd of you, I liked very much, and succeeded admirably well in introducing them. They were received in the evening, and in the morning I caught the old queens and let the Italians on the comb immediately, closing up the hive. On looking again in the evening, I found them all right.

STEWART LAWRENCE.

Linnville, Ohio, Oct. 8th, 1877.

Many reports verify our statement that queens will often be received all right at once, while in other cases several days or even a week is required to make a safe, sure job of it.

I have several very large queens raised from the brood you sent me from your Blood-*ed* queen; in fact they are as large as the O that came out of the little boy's mouth when he accidentally sat down on a big dry thistle. I hope you will succeed in wintering her, for I may want a few hundred dozens of her eggs next year.

Bees, either black, hybrids or pure Italians, imported or home bred, have done next to nothing since I was at your place; many stocks have required feeding to prepare them for winter. I have made 21 hives with the inside arrangement the same as your Lawn hive; the outside case is made of ⅜ inch ceiling 4 inches wide, tongued and grooved and covered with a double roof made of shingles, and I now have 2 stocks prepared for winter in each box. Next May or June the upper swarm will be set out directly in front of its winter entrance, and far enough from it so that I can walk between the two hives. The lower one will remain in the wintering box. I like them "muchly" and see no reason why they will not answer very nicely the purpose for which they were designed. If so, there will be with me no more packing and unpacking bees, and no great mass of "lumbering boxes" lying round loose, eye sores through the summer. The material for the boxes, dressed ready to cut and nail together, has cost about 80 cts. each, or 40 cts. per hive; this includes nails and paint, and it has taken me about ten days to make them. I commenced making my old boxes over, like them, but gave it up, concluding to make all new next year.

The Barnes' saw has *helped* me very much about my work in making hives, &c., the past summer; and after using it one season I would as soon think of doing without an extractor, as without a circular saw, either foot or some other motive power.

J. H. TOWNLEY.

Tompkins, Mich., Oct. 10th, 1877.

Bees are all in good wintering condition in this section of country. I had 8 in the spring, increased them to 17 and extracted one barrel of honey; also took 150 lbs. of box honey. I wintered them in chaff last season and they did splendidly. I shall try it again the coming winter. S. S. PONTIOUS.

Akron, Ind., Sept. 22d, 1877.

I am almost discouraged in the bee business, as I lost all but 3, out of 12 colonies last winter, and one of them was too weak to swarm this season; but as I had some surplus comb which I did not wish to lose, I purchased some first swarms of a friend, and now have my hives all occupied again, and most of them in good condition for winter.

Last fall, I built a frost proof house to winter in, but lost three-fourths of my bees; I think because the sawdust filling was too damp and had not time to dry out before winter set in. I will try it again this winter, hoping for better success. THOS. F. WILSON.

Milan, Ind., Sept. 22d, 1877.

I should hardly want to put so few as 12 colonies in a house, friend W. A cellar under the room you live in, might do, but so few in a house, would hardly keep it warm.

Bees swarmed too soon after receiving your letter to send for any hives, and I was compelled to use rough Southern pine; if you ever worked any of it you know how to sympathize with others. From 100 gums and box hives, churns, trunks, barrels, &c., we secured 55 swarms. I never saw bees "cut up" so badly before; after hiving I have had them leave their queen entirely alone in the hive. I have given them young brood and that did not seem to keep them; I have had them to build three large pieces of comb, fill them with brood and then leave their hive. It has been a very common occurrence for them to leave their new hives, and in every case they have left gradually, a few at a time and mixed up all over the apiary.

Of course you will put me into "Blasted Hopes," but you can't make me stick in that horrid column if you try. I never will *die* in "Blasted Hopes;" I am bound to be a bee man, and now friend R. I wish to ask one question; what has a man to do in order to become a bee man; tell big stories?

J. N. B. THOMPSON.

San Antonio, Texas, Aug. 11th, '77.

We have had reports about bees "cutting up" as you mention, but never had ours do so. If you want to be a genuine bee *man*, work hard and *tell the truth*, even if it *should* get you into "Blasted Hopes."

Our Homes.

Remember the Sabbath day to keep it holy.—
—Ex. 20; 8.

A FEW days ago, a friend dropped a remark that seemed to indicate he had been examining his bees on Sunday, and when questioned, frankly admitted that he had, saying he only looked at them, just as he looked at the fields and flowers, but did no work with them. I remarked that I did not think it well to open a hive at all on the Sabbath, unless something transpired making it almost a necessity, such as swarming, starvation, or something of that kind, and that even then, we should do it as quickly and quietly as possible, and should make it a point to avoid such necessities, as far as in our power, by taking a careful look all around, on the day before. I also remarked, that I found it had a bad effect on others, to be seen working or overhauling hives on the Sabbath, for they, knowing nothing of the good reasons the apiarist might have for so doing, are many times almost unconsciously led to have less strict ideas in regard to the sacredness of the Sabbath.

The friend in question was one who had but a few months before, with his wife, come forward in one of our revival meetings, and he himself had spoken most earnestly on the importance of a sincere, honest and Christian life, shunning even the appearance of evil; and I felt very anxious indeed that he should take a safe view of all these difficult questions. Meeting his wife soon afterward, I asked her to assist me in persuading her husband that it was not best to open his hives, even the small nuclei, to look at his queens and bees on Sunday.

"But is there really any harm in it? He only looks at them, and does no work," replied she, somewhat to my astonishment.

"It is a part of the work of an apiary," I replied, "to look over hives and see where the queens have commenced to lay, and if queens were to be shipped the next morning, it would be quite a saving of time to know just where to go to get them. Is it not to a certain extent work?"

"But do not farmers always look over their stock, their crops, and their fields after they get home from church Sabbath afternoons or evenings?"

I began to feel just about here, that we were drifting into argument, and I know argument is not what is wanted in such matters. I knew his bees had been rather cross, and in spite of the still small voice that was warning me to be careful if I would accomplish real good, I pushed ahead a little farther.

"You lighted your smoker before you commenced?"

"Yes, of course we had to have a smoker," replied he.

"And did you not feel while doing this that it was hardly the thing to do on Sunday?"

I am quite sure he agreed with me, but still something seemed to say I was doing wrong, or at least was somewhat in the wrong. I thought I should certainly get into the right track, by repeating what I had heard our minister say in regard to such matters. It was this.

"When we start about doing anything of this kind on Sunday, ask ourselves if we can conscientiously ask God to bless us in so doing, and if we feel we cannot, do not do it."

This last is a most excellent guide in such matters, and I know of no better advice that can be given; but for all that, I did not feel that approving voice that is usually wont to guide me in such matters In meditating over the matter, I at length saw, I think, wherein I was wrong. The two friends mentioned, were of course very intimate acquaintances, and we felt almost as though they were of our own family. We frequently had talks on religion, and sometimes I fear, got into a way of arguing on "doctrinal points." When I get into an argument, if even only a little way, I am, if possible, worse than one of the other sex in insisting that I am right. I need not stop to tell you how foolish this is. "Truth is mighty and will prevail," and if we cannot present truth in such a way as to have it gladly received, I think we are in the wrong somewhere. My friends, in my talk I had been unconsciously getting into an argument, and I fear the disposition to show these people that I was right and they wrong, took quite a prominent position beside my sincere wish to have them set a good example before those around them, in regard to keeping the Sabbath holy. Even my concluding remark about asking if they could ask God to bless them in opening bee hives (even little ones,) was, I fear, given with an inward feeling of "There! now I have got you; get around that if you can."

In the talk I wish to have with you now, dear friends, I do pray, that I may have none of the above feeling, and that I may be able to present truth in such a quiet pleasant way, as to awaken no controversy. I do not want to beat, at least I hope I do not, and I do not want to get ahead, but I do wish to have the spirit of truth and honesty and a sincere wish to do right, take the place of all other actuating motives. In short, I wish the spirit that Christ taught, to prevail, and be exalted because it is *right*, and not because I or anybody else, tried to teach it.

Building up Christian character, depends upon very little things, and very little things start one in either the right track or the wrong one. Even when you have made up your mind to do right as nearly as you can, almost imperceptible shades of right and wrong come in, until you hardly know what *is* just the right thing. In discussing these little matters, I have found it an excellent plan to turn the thing about something in this way. Supposing you wish to engage a boy to work for you, and that you want one you can entrust with money. Suppose too, that you have had several dishonest ones, and feel that you must have one, if it is a possible thing, who is *strictly honest*. If you have had much experience in such things, you will notice every little thing pretty closely, for in such a matter, even straws show which way the wind blows. You perhaps fix your mind on some young man near you, and begin carefully to notice his habits. Almost every action, and almost every word spoken, tells one way or the other, and eventually, you begin to see that almost every body is tending either to worse or better. It may take some time to see which way they have determined to follow, and many there are who seem to waver one way and then the other; but very little things many times give a practiced hand an insight into the governing motives. If the young man in question is always consulting his own comfort and pleasure, and seems to think it his first duty to take care of No. 1, before any body else, you will very soon perceive it; if, on the other hand, he would rather be right than to be president of the United States, you will very soon see that principle showing itself. One is bold, when difficult questions come up, and says "who cares!" The other is slow and careful in matters of conscience, and says by his actions that he fears to do wrong. I can scarcely think a person can be found, who would not choose the boy who is careful in little matters.

To go a little farther, what effect would it have on you, if you should hear the boy utter an oath when among his playmates? I presume many among you will say at once that the matter scarcely admits of discussion, for no one would feel as safe with a boy who swears, as one who does not. Is such really the case? Then why do so *many* of our boys swear? I do not know of a boy who does not want good wages, and who would not do a great deal, for the sake of getting better pay than he now gets. Have they ever been told by their employers that it weakens their value as a hand? A prominent lawyer of our place, a few days ago, in speaking of the young man who came out of the jail and is now at work in the mission Sabbath schools, made the remark that he admired and respected our work, and although not a believer in the Bible, he would gladly help us any way in his power. Said he,

"When I can give you any assistance, call on me, and if there is any thing I can do now, just tell me where and what it is."

"My friend, you can give us great help, and perhaps in a way that no other person can so effectively. Help us to get the boys on the streets all about us, to stop swearing. A word from you, will do more than many from any of the rest of us."

He looked down a moment, then promised to do all he could, and started off with his habitual long strides; but he wheeled about all of a sudden and came back,

"Look here, my friend, you have got me in a tight place. I am in the habit of swearing myself."

Ah yes; there is where a great part of the trouble comes in. We are asking the poor boys who do our work, to do something we ourselves do not, and demanding that they be honest, when *we* are not.

Instead of swearing, suppose the young man has a cigar in his mouth; you need not answer the question aloud, but simply think it over. Suppose he has none of these habits, but speaks slightingly of the subject of religion, and says he does not believe in the Bible. We are not arguing now, but simply hunting out a young man that we can trust.

Our Bible class in the jail yesterday, was quite a large one; and among the number, was one who refused to take a lesson paper, a hymn book, or to kneel with the rest in prayer. After the lesson, he made some apology, for not joining with the rest, but said he did not think as we did, that he did not believe in the Bible, miracles, &c.

When questioned somewhat he said he had been "through the mill;" that he had been converted *twice.*

"My friend when you were converted you were a good honest boy, were you not?"

"Yes, as good and honest as any boy could be."

"And you were then on a safe track?"

"Yes, but," hesitatingly, "I am on a safer track now."

The latter part of the sentence referred to good morals, which he had been talking of pretty fluently, aside from religion. The boys were all gathered about us, listening intently, and as it dawned on my mind that a jail could hardly be called a safer place than a revival meeting, I suppose it came to the minds of the others also, for as he began an excuse for being there, the rest burst out into a loud laugh at the incongruity of his system of philosophy. I afterward learned that he was put in jail for beating his mother, while under the influence of liquor. A pack of cards lay on the table, close by my Bible. As I picked them up, I remarked,

"Please do not use these to-day, will you boys? This is the Sabbath, and we are reminded to keep it holy. Now will you not, out of respect to what your mothers would wish, if nothing else, let them alone, at least during the Sabbath?"

No one replied, except our young moralist, and he to the effect, that they had just finished a game, when I came in.

How anxious we are to have good honest queens. That is, if we pay our money for an imported queen, we want just that, and nothing else. Supposing when you sent me the money for an imported queen, I had just sold the last one, but having a very fine daughter of one on hand, should reason thus: "This queen is a much finer looking one than the imported, she is tested, and her bees are beautiful; I am sure my customer will be even better pleased than with an imported, and I believe she is every whit as good. In fact *I* would *rather* have her. I believe I will let her slide just this time."

Is that the kind of honesty we want in bee-business? No, I think not. If there is one to be found who is honest to a fault, he is just the chap we are after. If there is a man to be found who cannot sleep nights unless he gives every man every copper that is justly his due, he is the fellow we want to import and to rear queens. I will give you a little idea of the difficulties. An imported queen was introduced to a colony all right; a few days after, she was taken out, and sent off to fill an order. In due time a card came saying she was received in excellent condition, and was quite satisfactory. In 10 days, I went to cut out the queen cells, but behold there was a laying queen, a darkish queen, precisely like the one introduced; and stranger still, the eggs and larvae showed plainly that she had been laying eggs every one of the 10 days. It was an easy matter to still conscience by saying, "Of course the right queen was sent off, and this one must have got in from somewhere else, about the same day," but when I turned the matter about and asked if I would like to purchase in just that way, I saw at once, that if I paid the price, I would want an imported queen and no guess work. I wrote our customer, and told him the case, and that he could have both the queens, or another. He chose another, and the one of doubtful identity, I cannot sell, for I would not wish such an one sold me, unless with a full understanding of the matter.

When you are undecided in such matters just ask how you would like to buy queens yourself. Before you insist that the boys shall be honest and truthful, and stop swearing, be honest and truthful and stop swearing yourself.

If you want a strictly honest man, one who will stop and think before he does a thing that may have even the appearance of evil, would you just as soon choose the one who opens his bee hives on Sunday? If your apiary fronts the street, would you do this while the people were on their way to church? If not, why would you act differently from what you would if you were back in the woods, with not a neighbor to see, or make remarks? A man who is strictly honest should need no watching and his conduct should be just the same whether he is watched or not. Perhaps this is demanding more of humanity than we have any right to expect; I am very well aware that I do not invariably work as faithfully for you as I would if your eye was always upon me. It is true, that I at times, do things better that are entrusted entirely to my honor, than I would were my customer present to overlook the work, but these impulses come by fits and starts, and every little while I look back and see where selfishness has been a very prominent motive in my actions. Over and over again, I reflect that God sees my inmost thoughts, and then strive the best I know how to walk accordingly, but a multitude of cares crowd upon me, and people as careless and thoughtless as myself crowd against me, or I imagine they do and I not only get careless, but many times downright stubborn and——I guess "ugly" must be the word I need. Did you ever get disgusted with the ugliness that you find in your own self, my friends?

Well, if we are really all so bad, what *is* going to be done? That is just the point I have been so long trying to get at, and I believe the thing for us to do, is to keep steadily trying to become better, to be making reforms every day; to turn right about to do better, the very minute we discover we are wrong; to set our faces resolutely against everything that has even a little wrong about it. I would not open bee hives on the Sabbath because I feel sure it would set a bad example before those about me, even if it did nothing more, and with myself, I know it would be "letting down the bars" where they should be kept up close and tight. If work *must* be done on the Sabbath, do it just as quietly and as speedily as possible, and take all precautions during the week to prevent a recurrence of such neccessary work.

If you are engaged in something that you feel you cannot consistently ask God's blessing to rest upon, you have for the time strayed away from him; if you stray away from him once, you will probably do so again, and the next time a little farther. Do you think I am making a great fuss about a mere trifle? If you are honest toward God, you will certainly be toward your fellow men; and do you think there is any danger of a man's being too honest? If he were going to raise queens for you, or take care of your money, you certainly would not say so. Did you ever see a really bad and wicked man suddenly converted? Did you ever hear him say that with God's help he was going to try to do right? And did you ever watch him as he started out in his new life as carefully as a humble and obedient child to do just what he thought was right? How his face has softened; how gentle, childlike and innocent he looks, and how kindly every body looks and speaks to him. Is this really the man we knew, that was so hard, bitter and wicked? Even the most hardened skeptic feels instinctively, that the light of the Saviour's love is shining over his pathway. His old comrades are awed into silence as he comes in among them, and feel to the very bottom of their hearts, that the gentle words he speaks to them are messages direct from a better world. In his quiet refusal to do anything that has even the appearance of evil, they recognize a courage, a boldness and a power, that is as much above his old loud oaths and curses, as angels are above demons. Would you see him go back to his old life? No, *no*, NO! comes from all sides. Well what would you have him do? We would have him carry that same childlike innocence through life, and if it be a possible thing, we would have him infuse the same spirit through all his business and social relations.

I am sure my friends, you all see what is wanted, and what we need, and I feel too, that you know these pure lives do not come without an effort on our part; nor do they continue pure, without a continued effort. Oh let us beware of the little things, that first start us on the wrong track; let us beware of any thing that is even questionable, and study to become gentle, humble and teachable. And above all, let us humbly bow to that great Master who will so kindly, gently and forgivingly, lead us through the green pastures, and beside the still waters.

HOW TO PREPARE BEES FOR WINTER, IN EITHER THE CHAFF OR SIMPLICITY HIVES.

IF the hive is full of bees and heavy with honey, they will probably do well with nothing more than a chaff cushion in the upper story. This cushion should be thick enough to allow at least 6 inches of chaff over the bees, and no drop of rain or particle of snow must by any means be allowed to get this chaff damp or wet. If your roofs are leaky, fix them up, and give them a good painting, but if they fit very closely, some provision should be made for ventilation over the chaff; unless this is done, the moisture from the breath of the bees will collect and form icicles on the underside of the cover. We have found it necessary to make ventilating holes in the covers of the chaff hives, for this very reason. The covers of ordinary two-story L. hives, usually lay on the top so loosely as to give sufficient ventilation. If the snow should drive under so as to accumulate considerably on the cushions, it may be a good idea to take them out and shake off the snow. You can take this trouble, or you can let it melt and rot the cushions, and then buy new cloth. when you want them again.

Now in regard to the lower story; I have found very few colonies that come through the winter, without dead bees between some of the combs, when wintered in ordinary summer hives; and if enough bees are left with the queen to "fetch up," we say they wintered all right. Now they can be wintered, on their summer stands too, without any dead bees at all between outside combs. Again, friend Bolin, and many others who winter successfully, have repeatedly mentioned cases of the bees having worked over to one side of the hive, while the honey was at the other. Does this not look as if they had too much room to ramble about in their winter quarters? Well, we have so far had no trouble in getting our largest colonies into a space that will hold only 7 L. combs; and we have no trouble either, in getting all the food that such a colony requires into their combs. Our chaff hives, as well as the others, have one of the chaff division boards on each outside, with the bees on the 7 combs contained between them. A sheet of duck is then put over them, and the chaff cushion over that. It may transpire that a good colony will winter as well thus prepared in a Simplicity or old style L. hive, as in the chaff hives; but as I have never before made the experiment, I am unable to say. About half of our apiary, is prepared for winter in this way, the other half are in chaff hives; this is for full colonies. Those that are not full, I would crowd down on as few combs as I could, and then push up the division board. You will be astonished to find that you can put what you thought a very fair stock, on 4 L. combs. Those that can be put on 3, I would not try to winter; put two such together, uniting them as directed last month.

It is very clear they will not get away from their honey, for the very worst they could do would be to get over to one end of their combs, while the honey was at the other, and bees rarely fail to find honey that is in the same combs they are clustered on. We do not contract the entrance to the chaff hives with a full colony, but when one has but 4 combs, I would narrow it down to perhaps one inch, by pushing a piece of wood, of the right length and thickness, into it. I do not think there will be any dead bees to clog the entrance, if they are prepared as above, for live bees will be clustered about it the greatest part of the winter. The Simplicity hives, I would bank up with sawdust to close all the joints round the bottom board, and I would make the entrance so small that no mice could by any possibility get in. I have not found colonies that would consume over 20 lbs. of stores when thus prepared, and I think we may therefore conclude that 25 lbs. will be a great plenty under any circumstances. I would pay no attention whatever to snow, but would prefer to have the hives all covered up with it. From what experience I have had, I do not believe that even some unsealed honey would be detrimental, when thus prepared. I do not favor wintering bees indoors, but were I to do so, I would prepare them in the same way, though they would perhaps require more ventilation. I would not fasten bees into the hives, yet it has been done many times, without doing them any harm.

Honey Column.

Honey season just closed, very poor. From 35 old stocks I get 32 increase and 1300 lbs. surplus; one half section box, and 5 swarms "gone *west*."

R. L. JOINER, Wyoming, Wis., Sept. 26th, 1877.

I have about 1000 pounds of honey on hand, all white clover, which I would be glad to sell at 11 cents.

JOSEPH DUFFELER.
Wequlock, Wis., Sept. 4th, 1877.

I have about 1200 lbs of honey that I want to sell; it is in 2 lb boxes, a part of it white. I expect 15 and 20 cents for it. GEORGE SMITH.
Wallace, N. Y., Oct. 14th. 1877.

We started with 150 hives, increased to 200, sold 3 queens for $10. and 2 hives for $30. Have 13650 lbs. box honey in Harbison sections and 1350 lbs. slung honey. An average of 100 lbs. for the 150 hives. Will take 17c for 10,000 lbs. in sections. D. D. PALMER.
Eliza, Ills., Oct. 7th, 1877.

We have had a very dry summer here and bees have not done very well, but from 18 in spring we got 1800 lbs, extracted honey, mostly basswood. I have 1200 lbs on hand whiuh I would sell for 12c; I sold the other for 15c. I increased to 43 and all are in good condition for winter. JOHN BAUERNFEIND.
Menasha, Wis., Oct. 16th, 1877.

I have 1000 lbs. of very nice clover honey, which I offer at 13c by the barrel. In ½ barrels, 14c; in tin cans, any quantity, 15c. Packages included at above prices. Also, 250 lbs. of comb honey in 1 lb. sections at 30c per lb. I do not expect you will purchase at the latter price, but at the rate it is now being retailed, it will probably all be out long before another season. A. I. ROOT.

Fill a glass can with grapes—sour grapes preferable—and cover them with liquid honey. In a few days the grapes will be delicious and the honey most delicious. Try it. J. H. P.

The last order of comb fdn. (10 lb.) was nice, being much thinner than what you sent last year. My honey (1500 lbs.) is nearly all sold. I can't supply the home market, and will have to run my bees for increase one year, buy bees, or suffer the annoyance of being called on for honey 9 months out of the 12 without any to supply.

M. WIGHT, Bedford, Iowa, Oct. 20th, '77.

CATNIP.

I found a very slow sale for a large lot of catnip seed, and never heard a report of a lot sold. I had, perhaps 15 lbs., sowed on our hillsides by some of my boys, but I don't notice an abundance of catnip around us.

CHAS. F. MUTH. Cincinnati, O., Oct. 15th, '77.

A few years ago we purchased some catnip seed from one of your neighbors, which was positively new seed; we tried it again and again in our testing hot bed, and also in our greenhouse, but only succeeded in getting 4 from 100 seeds to grow. We did not sell any on that account and since then. knowing it was so very uncertain in germination, we have not attempted to keep any.

STAIR & KENDEL, Cleveland, O., Oct. 8th, '77.

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our tenth edition circular found in April No., Vol. V., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required*.

Canada postage on *merchandise* is limited to 8¾ oz., and nothing can be sent for less than 10c.

BEES.

Basswood trees for planting, for prices see Oct. No.

	Bees, full colony amply provided for winter, in our new two story, chaff hive (described Nov. and Dec. No's .. '76), tested queen from imported mother, safe arrival guaranteed..(Lawn hive $1 more.)..	$15 00
	The same in a 1 story Simplicity hive........	13 00
	The same in old style L. hive with portico, etc.	12 00
	The same with hybrid queen....................	10,00
	Not provisioned for winter (hybrids in old hive)-	7,00
	Two frame nucleus with tested queen	5 50
	" " The same with dollar queen....	4 00

For an imported queen in any of the above, add $5,00

We think we can prepare bees for shipping safely any month in the year; when we fail in so doing, we will give due notice.

10	Bee-Hunting box, with printed instructions..	25
0	Binder, Emerson's, for GLEANINGS..........	50, 60, 75
	Balances, spring, for suspended hive (60 lbs)......	8,00
10	Blocks, iron, for metal cornered frame making....	15

One of the above is given free with every 100 frames, or 1000 corners.

	Barrels for honey, $2,50; waxed and painted....	$3,50

Buzz-saw, foot-power, *complete*; circular with cuts free on application. Two saws and two gauges included. $35 00

0	Buzz-saws. extra, 6 in. 1,50; 7 in.. 1.75; 8 inch..	2 00
00	Buzz saw mandrel and boxes complete for 6 inch saws. No saws included..........................	5 00
	The same for 7 and 8 inch saws (not mailable)..	8 00
10	Burlap for covering bees; 40 in. wide, per yd	10
	Comb Foundation Machines complete....$30 to	100 00
	Comb basket made of tin, holds 5 frames, has hinged cover and pair of handles..........	1 50
60	Chaff cushions for wintering....................	20
	Half price without the chaff, and postage 9c.	
40	Chaff cushion division boards..................	20
20	Candy for bees, can be fed at any season, per lb.	15
	" " Eight lb. slab, in L. frame........	1 30
20	Corners, metal. per hundred....................	75
20	" " top only........................	1 00
15	" " bottom, per hundred............	50

On 1,000 or more a discount of 10 per cent. will be made, and on 10,000 25 per cent. The latter will be given to those who advertise metal cornered frames.

	Corners. Machinery complete for making......	250 00
10	Clasps for transferring, package of 100..........	25
0	Cards, queen registering, per doz. 6c, per 100...	40
1	Cages, wood and wire cloth, provisioned, see p. 214	15
12	" " " per doz...	50
	" " Larger size double above prices	
2	Cheese cloth, for strainers, per yard...........	10
12	Duck, for feeding, and covering the frames—bees do not bite it—per yd. (29 inches wide).....	20
	Extractors, according to size of frame $7 50 to	10 00
	" inside and gearing, including honeygate	5 00
	" Hoops to go around the top (per doz. $5.)	50
5	Feeder, Simplicity. (see page 239) 1 pint.........	5
7	Feeders. 1 q't, tin, pepper box style...........	10
25	The same, 6 qts, to be used in upper story...	50
4	Frames with Metal Corners..................	05
5	" " Sample Rabbet and Clasps....	10
3	Files for small circular saws....................	20
	" " " " per doz. by Express	2 25
18	Galvanized iron wire for grapevine trellises per lb. (about 100 feet)....................	20
0	GLEANINGS, Vol's I and II, each 75c., Vol IV	1 00
0	" Vol. III, second-handed............	2 00
0	" first four volumes neatly bound.....	5 00
0	" " " " unbound.........	4 00
50	Gearing for Extractor with supporting arm..	1 50
25	Gates for Extractors tinned for soldering...	50

SIMPLICITY BEE-HIVE.

One body and 1 cover in the flat, as sample to work from—one sample frame and sheet of duck included 1 00

One story hive for extractor (body 50c—2 covers 60c—nailing and painting 20c—quilt 25c—10 frames 60c—crating 10c).................................... 2 25

One story hive for comb honey is precisely the same as the above, substituting 2 frames of sections for 4 metal cornered frames........................ 2 25

The above 16 sections will be fitted with fdn., and starters ready for the bees, for 15c, and the tin separators added for 10c, making whole complete....... 2 50

The above two hives contain everything used in a 2 story hive. We simply use another body filled with frames or sections, for a 2 story hive.

For a 2 story hive for the extractor, add (to 1 story 2 25) body 50c—nailing and painting 10c—10 frames 60c—crating 5c, making complete 2 story containing 20 frames.. 3 50

For a 2 story hive for comb honey add (to 1 story 2 25) body 50c—nailing and painting 10c—6 frames of sections 78c—1 metal cornered frame 6c—crating 6c, making complete 2 story containing 7 frames and 64 sections.. 3 75

If filled with fdn. starters 60c—if also filled with tin separators 40c, making $4 75, if two latter items are wanted.

An upper story filled with sections, fdn. starters and all ready to be set over any L. hive...............$2.75

To prepare the above hives for winter, put in place of the 2 outside frames chaff cushions, price 20c each, and a thick one on top 30c.

Iron frame to gauge size of above hives, and to hold them true when nailing, size 20¼x16 inside.... 50

	CHAFF HIVE FOR OUT DOOR WINTERING. 10 frames below, and 14 frames or 80 section boxes above, well painted and finished complete ....(Lawn hive $1 more.).......	$5 00

If filled with fdn. starters and separators, $1.25 more.
Without frames chaff or paint, as sample to work from 2 50

These hives, if supplied with stores, will, we hope, need no attention whatever, from the time honey ceases until it comes again the next season.

Two frame nucleus hive, neatly painted....... 50

For price list of hives in the flat, see Sept. No.

0	Knives, Honey (½ doz. for $5 25, or $5 by Exp.)	1 00
	" " curved point $1.15..per ½ doz	6 25

Labels for honey, in blue and gold, dark bronze and gold, or in white printed in two colors, furnished with your own address, and source from which the honey was gathered, already gummed, post paid by mail, (no order rec'd for less than 250). At these low rates, the full number mentioned *must* be ordered without the change of one single letter of the type....................1000, $3,25; 500, $2,10; 250, $1,80

0	Lithograph of the Hexagonal Apiary........	25
	Lamp, Nursery for hatching queen cells as built	5 00
0	Larvae, for queen rearing, from June to Sept.	25
15	Microscope, Compound, in Mahogany box...	3 00
0	Prepared objects for above, such as bees' " wing, sting, eye, foot, etc., each..	25
0	Medley of Bee-Keepers' Photo's, (150 Photo's)	1 00
0	Magnifying Glass, Pocket.....................	50
0	" " Double lens, brass, on 3 feet	1 00
7	Muslin, Indian head, for quilts and cushions per yard, pretty stout, but not good as duck.	10
10	Opera Glasses for Bee Hunting	5 00
	Parafine, for waxing barrels, per pound....	20
0	Photo. of House Apiary and Improvements..	25
0	Queens. 50c to $6.00. See price list in Oct. No.	
2	Rabbets, Metal per foot........................	02

SECTION BOXES IN THE FLAT, PER 1,000.

Any dimensions not exceeding 2x5x5.................. 10 00

The above is 50 cubic inches; for larger sizes add 10c per 1,000 for each additional cubic inch or fraction of an inch, outside measure. Extra prices for less than 500.

Just right to fit in L. frames, 2x4¼x4¼......... 9 50

Sample by mail with fdn................................ 5

If the grooving for holding the fdn. is omitted, 25c less per 1,000. Sections weigh from 7 to 10 lbs per 100.

10	L. frame made 2 inches broad to hold 8 sections	5
25	The same with 8 sections........................	13
25	The same furnished with fdn. starters all ready for the bees....................................	20

Adding tin separators to either of the above will increase the price 5c, and the postage 6c.

6	Section boxes, fancy, hearts, stars, crosses, etc. each	5
5	Sheets of duck to keep the bees from soiling or eating the cushions..................	10
	Shipping Cases for 48 section frames of honey.	60
	Salicylic acid, for foul brood, per oz...	50
0	Scissors, for clipping queen's wings	40
18	Seed, Alsike Clover, *raised near us*, per lb...	25
18	" Summer Rape. Sow in June and July.	15
0	" Chinese Mustard, per oz................	25
18	" Mignonette per lb. (20c. per oz.)	1 50
18	" Mellilot, or Sweet Clover, per lb.........	60
18	Silver Hull Buckwheat (peck by express, 75c)	10
	Simpson Honey Plant, per pkg. (oz. 50c)........	05
10	Smoker, Quinby's (to Canada 15c extra)	1 50
5	" Doolittle's............................	25
25	" Bingham's $1 00, 1 50,	1 75
25	" OUR OWN, see illustration in Sept. No	75
2	Tacks, Galvanized..............................	10
5	Thermometers..................................	40
0	Veils, Bee, with face of Brussels net, (silk)..	75
0	The same, all of tarletan (almost as good)...	50
	Wax Extractor..................................	3 50
	Copper bottomed boiler for above	1 50
5	Wire Cloth, for Extractors, tinned, per sq. ft.	15
2	" " Queen Cages..................	12

Above is tinned, and meshes are 5 and 18 to the inch.

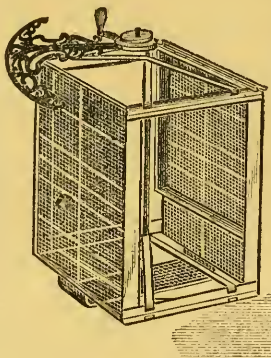
3	Painted wire cloth, 14 mesh to the inch, per square foot....................................	7

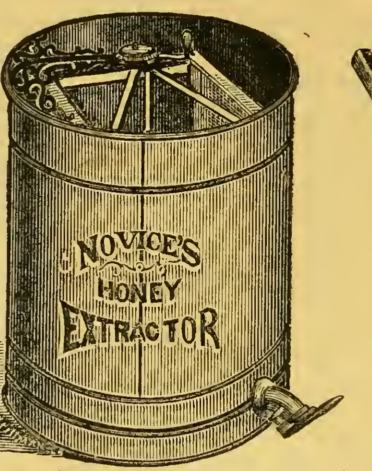
All goods delivered on board the cars here at prices named.

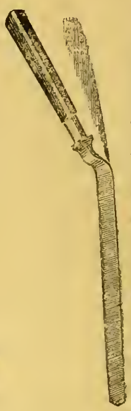
A. I. ROOT, Medina, O.

PRICES OF EXTRACTORS:

For Gallup frame, $7,50; American frame $7,75; Adair frame, $8,00; Langstroth, $8,00; Quinby, $9,00. No knife included at these prices. All the above sizes kept constantly on hand ready to ship. OVER 1000 NOW IN USE.







Our Honey Knife, Price $1,00, post-paid, is made of fine steel, nicely finished, with a thin keen edged blade that needs no hot water or any such "fussing" to make it uncap nicely

In ordering be sure to give outside dimensions of frame, and length of top bar.

ADVERTISEMENTS.

Advertisements will be received at the rate of 20 cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

FREE! FREE! FREE!

We will send a sample copy of the **Bee-Keeper's Magazine,** *post-paid*, to any person in any way interested in **Bees** or their **Products,** or in the apparatus so successfully used in modern management. Just send your name and address to **A. J. KING & CO.,**
8tf **61 Hudson St., New York.**

Every Bee-keeper should subscribe for it.

The American Bee Journal

Is the best scientific and practical Journal of APICULTURE in the world. The most successful and experienced Apiarians in Europe, as well as America, contribute to its pages. In fact, it is the *oldest* and *largest* BEE PAPER in the English language. **$2.** Per Annum. Send a Stamp for a Sample Copy. Address THOMAS G. NEWMAN,
tf 184 Clark st., Chicago, Ill.

CASH FOR BEES-WAX.

We are paying 30 cents per pound for yellow beeswax, in lots of from 50 to 5,000 or more pounds, delivered at Syracuse, or 31 cents, if exchanged for white wax. If you have any wax on hand, and can deliver it at the above price, please do so, and we will send you our check on receipt of the same.

ECKERMAN & WILL.
8-7 Wax-bleachers, Syracuse, N. Y.

GLASS HONEY JARS.

1 lb. Round Honey Jars, Corks included, per gross..	$5 00
2 lb. " " " " " ...	7 25

HONEY TUMBLERS.

NO COVER.

⅓ Pint, plain or ribbed........................	.40 doz.
6 dozen in a package. Packing boxes............	.40 each.
½ Pint, plain or ribbed........................	.50 doz.
6 dozen in a package. Packing boxes............	.45 each.

HONEY TUMBLERS.

TIN TOPS.

⅓ Pint..	.65 doz.
6 dozen in a package. Packing boxes...........	.10 each.
½ Pint..	.75 doz.
6 dozen in a package. Packing boxes...........	.45 each.

Also, Window Glass, Lamp Chimneys and glassware of all kinds, for sale by B. L. FAHNESTOCK, late B. L. Fahnestock, Fortune Co., 76 Wood St., Pittsburgh, Pa.
10-12d

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 20c. each insertion, or $2.00 per year.

$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c. each insertion, or $2.00 per year.

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, safe delivery, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If wanted by mail, send 10c. extra.

*Wm. W. Cary, Colerain, Franklin Co., Mass.	3-2
*J. Oatman & Co., Dundee, Ill.	1-12
*E. W. Hale, Wirt, C. H., West Va.	6-6
*J. M. C. Taylor, Lewiston, Fred. Co., Md.	1-12
*Dr. J. P. H. Brown, Augusta, Ga.	1-12
*Albert Potter, Eureka, Wis.	1-12
*Wm. J. Andrews, Columbia, Tenn.	2-2
*J. H. Nellis, Canajoharie, N. Y.	5-11
Miss A. Davis, Holt, Ingham Co., Mich.	5-4
D. A. Pike, Smithsburg, Wash. Co., Md.	5-6
*W. A. Eddy, Easton Adams Co., Wis.	6 11
*E. C. Blakeslee, Medina, Ohio.	6tfd
*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Columbia Co., Pa.	7-6
*J. Shaw & Son, Chatham Center, Medina Co., O.	8tfd
*M. L. Stone, Mallet Creek, Medina Co., O.	8tfd

Bees for Sale.

We whose names appear below agree to sell a good colony of Italian bees with tested queen, in new one story hive, for $10,00. If in an old hive, $1,00 less. Safe arrival guaranteed.

A. I. Root, Medina, Ohio.	
O. H. Townsend, Hubbardston, Mich.	9-11

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
M. S. West, Pontiac, Mich.	6-5
Geo. W. Simmons, Newark, Del.	1-12
Isaac L. Parker, McMinnville, Warren Co., Tenn.	3-2
M. Nelson, Allegheny, Pa.	11

SQUARE HONEY JARS.

One pound square honey jars, per gross..........	$5 00
Two " " " " "	7 00

Corks, Caps, Labels, &c., at reasonable rates.
For further particulars address,
12 CHAS. F. MUTH, Cincinnati, O.

GLEANINGS IN BEE CULTURE

Devoted to Bees and Honey,

And Peace on Earth and Good Will toward Men.

PUBLISHED MONTHLY, AT MEDINA, OHIO,
BY A. I. ROOT.

Vol. V. December, 1877. No. 12.

To Many Inquiring Friends.

PATENT HIVES—WHAT FRAME OR HIVE TO USE—SHALL WE USE AN EXTRACTOR, OR RAISE COMB HONEY?—ITALIANS—THE BEE MOTH—SPACE FOR COMBS—FOUNDATION.

While I earnestly try to maintain a broad "charity for all, and malice toward none," and while I do not wish to take upon myself the responsibility of dictating a course for others, I feel it a duty to discourage with all my might, both by precept and example, everything in the shape of patented bee hives, or patents on anything pertaining to bee-culture. On the other hand I shall try to encourage every one to do all in his power to advance the common good of all. I do not believe the world "selfish and grasping," but have unlimited confidence in the disposition of our people to desire to pay for everything they get, and to reward those who work for them disinterestedly, when they once get a clear understanding of the matter. If you have made a valuable invention or discovery, give it to the people rejoicing that you have been enabled to contribute your mite to the common good, and in seeing others happy, and sooner or later, you will surely have your reward. *Nothing is patented in the shape of hives or implements, that we advertise.*

I recommend the Langstroth frame for everybody, and for every purpose whatever, in preference to anything else, and I have pretty thoroughly experimented with all shapes and sizes. There may be other forms that will give just as good results, but I do not believe there are any better. For all general purpose, I advise the Simplicity hive holding ten of the above frames. The hive is made of ⅞ lumber, and is 20¼ by 16 inches outside measure. The Langstroth frames as our gauges make them, are 17⅝ by 9⅛ outside measure. As the chaff hive is the same thing with an outer shell to hold the chaff that protects the hive from the winter's frosts, as well as summer's sun, no confusion can result from using both in the same apiary.

Produce just whichever pays best in your own market, and no one can tell so well as you, yourself, can by trying both; you can perhaps produce a nice article of extracted for about 15c., as cheaply as comb honey for 20c. You can produce thin, raw, unripened honey without any trouble for 10c. or less, but it will probably pay you best to give your customers an article as good in every respect as that found in the nicest comb honey.

The comparative advantages of the black or common bees and Italians, is a matter that no longer admits of discussion, and I must consider the very few individuals who write in favor of the former as belonging to that class of unfortunates who seem to delight in being contrary. If tons of honey are to be considered a proof, the matter has long ago been amicably settled in favor of the Italians.

The bee moth need hardly be mentioned now, unless it is to advise you to drive them out with Italians, for whenever they come into a neighborhood, the moths get out without any farther trouble or bother. This one feature alone, is enough to justify introducing Italian queens in place of the blacks.

The usual space allowed for brood combs is about 1 7-16 inches, but the matter is not at all important. They can be worked as closely as 1⅜, or as far apart as 1¾. For surplus honey we would have about 2 inches space from centre to centre of the combs.

Now my friends, I beg to be allowed to make a request of *you*. Answering questions by letter or by postal, is a grievous tax on my health, strength, time and money. Will you not, before asking, look over the above, our circular which we give away, besides paying postage, and our A B C Book for beginners. Nearly all the questions that are asked, are carefully and deliberately answered in the above, if you will only take the time to look them up. It takes hard brain labor to answer your questions faithfully, and when they come by the thousand, it takes all my time from the journal, and from those to whom it belongs, having paid me their money. Now please do not think me unkind, if your answers are brief, on a postal, and written by one of the clerks. It is the very best I *can* do.

Your busy friend, NOVICE.

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THIS 26th day of Nov., 1877, we have 2513 subscribers. Now comes the tumble, for next month we must commence almost at the foot of the ladder, and slowly climb up again. All right, we are getting our "climbers" in "rig" as fast as we can, and—confidentially—that dollar you are thinking of sending us will help "amazingly."

◆

A good sized colony of bees that were taken from the woods in Sept., destitute of honey, were fed up to good condition on common brown sugar. It required just 35 lbs., but considerable of it was consumed in comb-building, and brood rearing. The colony seems so bright and healthy in a chaff hive, that we have given them an imported queen to care for.

◆

TEASEL BLOSSOMS.

Teasel blossoms at the same time bass-wood does, which makes it difficult to tell just what part of our honey was Teasel; probably ⅓. The honey is very white, whitest of anything in the honey line. You will see that a portion (see page 335) was taken from the N. Y., times, and Thurber and Co. was the originator of it. If you wish I will give the mode of Teasel culture in GLEANINGS. G. M. DOOLITTLE.

Borodino, N. Y., Nov. 16th, '77.

The above was received in answer to an inquiry. Please tell us about cultivating and marketing the crop, by all means, friend D.,

◆

As you were recently out on a bee hunt I send you the following; A good way to catch absconding swarms is to place several box hives, or better still, log gums, in the woods round about your apiary. Bees in hunting for a new home are sure to find them and appropriate them, if they succeed in getting away.

We have seen this tried, and it was a success; even if your own bees do not get away, there are plenty of bee-keepers around you, that are so careless as to let half their new swarms go to the woods.

HARTFORD, N. Y. J. H. MARTIN,

LANGSTROTH BEE HIVES.

Langstroth Bee Hives cut ready to nail including 10 frames and 6 honey boxes or two story hives of 20 or 21 frames. Price 80c to $1.50 each according to quantity and quality.

Address R. R. MURPHY,
12-2 Garden Plain, or Fulton, Whiteside Co., Ill.

PRICE OF ITALIAN QUEENS

D. Tremontani, Cremone, Italy.

April, May and June....12 francs in gold.
July and August....10 " "
Sept. and Oct.... 7 " "

No order for less than 8 queens is accepted. If any queens die in the trip, they must be sent back in a letter to have the right to an invoice of compensation. If anyone should refuse to accept the invoice, all right to a compensation shall be lost. [The value of a franc is 18¾ cents, gold.—Ed.]

D. TREMONTANI, Cremone, Italy.

GLASS HONEY JARS.

1 lb. Round Honey Jars, Corks included, per gross.. $5 00
2 lb. " " " " " ... 7 25

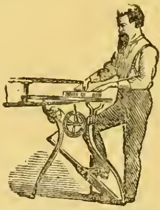
HONEY TUMBLERS.
NO COVER.

⅓ Pint, plain or ribbed....40 doz.
6 dozen in a package. Packing boxes....40 each.
½ Pint, plain or ribbed....50 doz.
6 dozen in a package. Packing boxes....45 each.

HONEY TUMBLERS.
TIN TOPS.

⅓ Pint....65 doz.
6 dozen in a package. Packing boxes....40 each.
½ Pint....75 doz.
6 dozen in a package. Packing boxes....45 each.

Also, Window Glass, Lamp Chimneys and glassware of all kinds, for sale by B. L. FAHNESTOCK, late B. L. Fahnestock, Fortune Co., 76 Wood St., Pittsburgh, Pa.
10-12d



BARNES' FOOT POWER MACHINERY.

13 different machines with which Builders, Cabinet Makers, Wagon Makers, and Jobbers in miscellaneous work can compete as to QUALITY and PRICE with steam power manufacturing; also Amateurs' supplies, saw blades, fancy woods and designs. Say where you read this and send for catalogue and prices.

W. F. & JOHN BARNES,
6tfd Rockford, Winnebago Co., Ill.

STILLMAN & Co
Engraving
ON WOOD
N.W. COR. FRONT & VINE
CINCINNATI OHIO.

THE
British Bee Journal,

Is a large, beautifully printed, and profusely illustrated MONTHLY; clear type and fine heavy paper. It is conducted by CHARLES NASH ABBOTT, Fairlawn, N., London, England. Annual subscription, half-a-guinea.

We will send it with GLEANINGS and pay all postage for $2.50.

IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For descriptions of the various articles see our Eleventh Edition Circular and price list found in Dec. No., Vol. V., or mailed on application.

For directions *How to make* all these various articles and implements, see A B C of Bee Culture.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required.*

Canada postage on *merchandise* is limited to 8¾ oz., and nothing can be sent for less than 10c.

Basswood trees for planting, for prices see Oct. No.

Bees per colony, from $7 to $16, for particulars see price list.

10	Bee-Hunting box, with printed instructions..	25
0	Binder, Emerson's, for GLEANINGS..........	50, 60, 75
	Balances, spring, for suspended hive (60 lbs)......	8,00
10	Blocks, iron, for metal cornered frame making....	15

One of the above is given free with every 100 frames, or 1000 corners.

	Barrels for honey, $2,50 ; waxed and painted....	$3,50

Buzz-saw, foot-power, *complete*; circular with cuts free on application. Two saws and two gauges included. $35 00

0	Buzz-saws. extra, 6 in. 1.50; 7 in., 1.75; 8 inch..	2 00
60	Buzz saw mandrel and boxes complete for 6 inch saws. No saws included........................	5 00
	The same for 7 and 8 inch saws (not mailable)..	8 00
10	Burlap for covering bees; 40 in. wide, per yd	10
	Climbers for Bee Hunting......................	2 50
	Comb Foundation Machines complete....$30 to	100 00
	Comb basket made of tin, holds 5 frames, has hinged cover and pair of handles........ .	1 50
60	Chaff cushions for wintering..................	30
	Half price without the chaff, and postage 9c.	
40	Chaff cushion division boards..................	20
20	Candy for bees, can be fed at any season, per lb.	15
	“ “ Eight lb. slab, in L. frame........	1 30
20	Corners, metal. per hundred....................	75
20	“ “ top only........................	1 00
15	“ “ bottom, per hundred...........	50

On 1,000 or more a discount of 10 per cent. will be made, and on 10,000 25 per cent. The latter will be given to those who advertise metal cornered frames.

	Corners. Machinery complete for making......	250 00
10	Clasps for transferring, package of 100..........	25
0	Cards, queen registering, per doz. 6c, per 100...	40
1	Cages, wood and wire cloth, provisioned, see p. 214	65
12	“ “ “ per doz.........	50
	“ “ Larger size double above prices	
2	Cheese cloth, for strainers, per yard.............	10
12	Duck, for feeding, and covering the frames—bees do not bite it—per yd. (29 inches wide).....	20
	Extractors, according to size of frame $7 50 to	10 00
	“ inside and gearing, including honey gate	5 00
	“ Hoops to go around the top (per doz. $5.)	50
5	Feeder, Simplicity. (see page 239) 1 pint........	5
7	Feeders. 1 q't, tin, pepper box style...........	10
25	The same, 6 qts, to be used in upper story...	50
4	Frames with Metal Corners..................	05
5	“ “ Sample Rabbet and Clasps....	10
13	Files for small circular saws, new and valuable	20
	“ “ “ “ per doz. by Express	2 25
18	Galvanized iron wire for grapevine trellises per lb. (about 100 feet).........................	20
0	GLEANINGS, Vol's I and II, each 75c., Vol IV	1 00
0	“ Vol. III, second-handed.............	2 00
0	“ first five volumes neatly bound.....	6 00
0	“ “ “ “ unbound.........	5 00
50	Gearing for Extractor with supporting arm..	1 50
25	Gates for Extractors tinned for soldering...	50

Hives from 50c to $6,25; for particulars see price list.

0	Lithograph of the Hexagonal Apiary........	25
	Lamp, Nursery for hatching queen cells as built	5 00
0	Larvae, for queen rearing, from June to Sept.	25

Labels for honey. from 25 to 50c per 100; for particulars, see price list.

15	Microscope, Compound, in Mahogany box...	3 00
0	Prepared objects for above, such as bees' wing, sting, eye, foot, etc., each..	25
0	Medley of Bee-Keepers' Photo's, (150 Photo's)	1 00
0	Magnifying Glass, Pocket....................	50
0	“ “ Double lens, brass, on 3 feet	1 00
7	Muslin, Indian head, for quilts and cushions per yard, pretty stout, but not good as duck.	10
10	Opera Glasses for Bee Hunting	5 00
	Parafine, for waxing barrels, per pound....	20
0	Photo. of House Apiary and Improvements..	25
0	Queens. 50c to $6.00. See price list in Oct. No.	
2	Rabbets. Metal per foot......................	02
6	Section boxes, fancy, hearts, stars, crosses, etc. each	5

Section Honey Box, a sample with strip of fdn. and printed instructions. 5c postage paid.

Section boxes in the flat by the quantity, $9,50 per thousand and upwards, according to size; for particulars. see price list.

5	Sheets of duck to keep the bees from soiling or eating the cushions..................	10
	Shipping Cases for 48 section frames of honey.	60
	Salicylic acid, for foul brood, per oz...	50
0	Scissors, for clipping queen's wings	40
18	Seed, Alsike Clover, *raised near us*, per lb...	25
18	“ Summer Rape. Sow in June and July.	15
0	“ Chinese Mustard, per oz.................	25
18	“ Mignonette per lb. (20c. per oz.)	1 50
18	“ Melilot. or Sweet Clover. per lb.........	60
18	Silver Hull Buckwheat (peck by express, 75c)	10
	Simpson Honey Plant, per pkg. (oz. 50c)........	05
10	Smoker, Quinby's (to Canada 15c extra)	1 50
5	“ Doolittle's..............................	25
25	“ Bingham's $1 00, 1 50,	1 75
25	“ OUR OWN, see illustration in Sept. No	75
2	Tacks, Galvanized.............................	10
5	Thermometers..................................	40
0	Veils, Bee, with face of Brussels net, (silk)..	75
0	The same, all of tarletan (almost as good)...	50
	Wax Extractor..................................	3 50
	Copper bottomed boiler for above	1 50
5	Wire Cloth, for Extractors, tinned, per sq. ft.	15
2	“ “ Queen Cages....................	12

Above is tinned, and meshes are 5 and 18 to the inch.

3	Painted wire cloth, 14 mesh to the inch, per square foot..	7

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“ American Agriculturist	($1.60)	....$2.25
“ Prairie Farmer	($2.15)	...............2.90
“ Rural New Yorker	($2.50)	...............3.25
“ Scientific American	($3.20)	3,90
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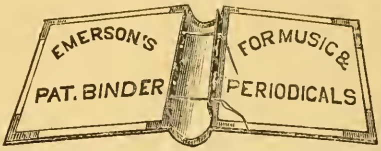

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The first column is for those only, who send 5 or more names.

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2—*Lithograph of Apiary, Implements, etc.*	25	5	2
3—*Photograph of House Apiary*	25	5	2
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5—*Emerson's Binder for* GLEANINGS, *will hold* 3 *Volumes*	50	6	3
6— " " *better quality*	60		3
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Any of these books will be forwarded by mail, *post-paid*, on receipt of price.

In buying books, as every thing else, we are liable to disappointment if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them *for sale* it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage, shall not be disappointed, and therefore, I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with a *, those I *especially* approve * *; those that are not up to times †; books that contain but little matter for the price, large type and much space between the lines ‡; foreign §.

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" " " " *†....paper	40
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BOOKS THAT I HAVE NEVER EXAMINED, BUT THAT ARE IN GOOD REPUTE.

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GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

Vol. V. DECEMBER 1, 1877. No. 12.

A. I. ROOT,
Publisher and Proprietor,
Medina, O.

Published Monthly.
Established in 1873.

TERMS: $1.00 Per Annum in Advance; 3 *Copies for* $2.50; 5 *for* $3.75; 10 *or more, 60c. each. Single Number* 10c.

BEE HUNTING IN TEXAS.

ALSO SOME VALUABLE HINTS TO BEE-KEEPEES.

THERE is a timbered ridge 5 miles from my house called the Postoak ridge, and on it a place about 4 miles square, very thickly covered with grape vines and green briers called the Postoak Ruffs. I was in this place last spring getting timbers, and while cutting down Sour Oaks I noticed honey bees on the chips and stumps. As the place is very unhealthy, no one lives within 5 miles of the spot. Next day I took my hunting pan, well baited, with me. I didn't get any timbers that day; my pan was covered with bees in 30 minutes and I found three bee trees that day, but I have been so busy I have never had time to take a general bee hunt. I have only hunted a little going in and out after wood. I found 8 bee trees and I have several more lines to hunt after, as soon as I get time. The bees all go in at the ground or so close to it that I need no climbers to hunt here. I think I can find as many wild bees as I want, for I am called a good hand at the business.

MY METHOD OF HUNTING BEES.

I make a wooden pan with a long handle, cutting two or three gullies in the body of the pan sufficient to hold corn cobs from being easily rolled out. On these corn cobs I pour my bait; the cobs have little cells that hold it from spreading or running off if my pan should happen to turn at any time a little to one side, and the bees can quickly and easily load themselves. When they find the bait, I let them come and go a few times until they take a straight line homeward. If there is undergrowth in the way I get a good course, trim out my way, and then while there are bees loading themselves on the pan, I carefully take hold the handle and walk on the line till I see one commence wiping his mouth to start home; then I stop and watch him very closely, set my pan down and let them gather again. When they get to pitching off home on a straight line I walk again, and continue in this manner until I pass the tree and they turn back; then I find the tree without much hunting. Sometimes I cross line them but only when the tree is hard to find. I have never failed in finding them when I got a good line.

BEES LYING OUT, IDLE ON THE HIVES.

I have often been vexed at my bees hanging idly out-doors in the midst of a good honey season with plenty of room in the hive. One day I "studied out a plan" to *make* them work. I took a quart of strained honey, mixed it with a little water, and poured honey all over every bunch of bees that was lying out. They at once began to sip and clean themselves off and as soon as they would get full they would go up and empty, and return for more. They would soon clean themselves off and tear round as though mad at finding no more honey there. They have the "lazy" "knocked off" and nearly every time they will fly off to the forest after more stores.

HIVING BEES; A NEW "BEE BOB."

Friends, you that are keeping bees in the old-fashioned way, if you want no trouble in hiving your bees, go to the woods and hunt a knot that resembles a swarm of bees settled, and stick it up 6 or 8 feet high in front of your hives. Nine times out of ten, they will settle on it, and you can take them anywhere you please. Place your hive where you want it to stay, shake your bees off in front of it, and you are done. I have never had a swarm leave me when I was at home. If I see they are determined to emigrate, I settle them and wet them good, so they can't fly, shake them on a cloth, on the ground or a table, and stir them about till I find the queen, clip her wing, and I have them "tied." After you put a new swarm in a hive, if you will watch closely, you can tell when they have a notion of leaving by their stillness between the hours of 9 o'clock A. M. and 4 P. M. About 30 minutes before they intend starting they will be very quiet, scarcely any stirring; if few are coming in and none going out, you may look out, but if they are coming out as well as going in, they are all right. If I had space I could tell a "heap" more, but I don't suppose it would be of any use to any one.

E. J. ATCHLEY.

Lancaster, Texas, Oct. 19th, 1878.

Many thanks, friend A. Your remarks about clipping queen's need a little qualification. It will do very well for first swarms, but if you clip the wings of the queen of any after swarm, it will make you much more trouble than it would to clip her head off. Your idea for making lazy bees go to work, and your "bee bob," I am inclined to think quite favorably of.

ITALIANS; THEIR MARKINGS.

THERE is something about the marking of bees, that I do not understand. One of the "Blood" queens that I got of you, produces bees, the greater part of which are beautifully marked, light colored, and three banded, while a few, (very few) are the blackest bees I ever saw. Old fashioned black bees can't begin to shine with them, for they look as though they were polished. Now what kind of a drone did she meet?

In the spring of '76, I had a swarm of blacks, the queen of which became drone laying. All their brood was drone brood, and there was lots of it. I thought those small drones might fertilize a queen. This was in April, and I don't think there were any other drones in this part of Canada, certainly there were no Italians. Well, I killed the black queen, and gave her bees a frame containing brood in all stages, from the only pure Italian swarm I had. In a little over two weeks, they had a fine light colored laying queen. They did not get weak at all, and strange to say, when those young bees hatched, they were all beautifully marked Italians; they were not light colored, for they were of the world renowned imported stock, but every bee showed the three bands distinctly. I have them yet—a very strong swarm, snugly packed in chaff.

I have one swarm of hybrids, of which one-half are black, and the other half all three banded, while another swarm containing a queen, full sister to this last, are nearly all two banded with no black bees at all. Should a queen reared from a pure mother produce any black bees? My drones are all pure. Young queens that were reared this summer, and mated impurely, produce bees different from those of last summer, and so I am perplexed.

Since my loss in the spring of '75, I have increased slowly. I lost three last winter by trying different plans of wintering. I had but six left—four pure Italians and two hybrids—which I increased to 20. I sold five, extracted 300 lbs. of honey, leaving the bees more than they will need, and sold 12 queens.

Value of increase	$70 00
300 lbs. honey	40 00
12 queens	12 00
Total profit from 6 swarms	$122 00

Labor, nothing, for it was only rest from my farm work. Bees all packed in chaff where they will remain the year round.

Friend Anson Minor had 14 swarms left, after losing 1 or 2 and selling as many, which increased naturally to 34 though he lost 12 or 15 swarms which went to the woods, and he has extracted nearly half a ton of honey. ILA MICHENER.

Low Banks, Ontario, Canada, Nov. 5th, 1877.

In rearing young queens from a tested mother, we sometimes find, on the same comb, young queens of different colors; some being very yellow, and exact duplicates of the mother, others very brown, nearly as dark as the common black queen. Is this peculiarity indicative of impurity on the mother's side? Will the progeny of one of those dark queens, be as bright as those of the yellow queen, supposing they both mate with Italian drones? Again, how would the progeny of each compare with the others, should they have mated with the black drones?

I am only a novice in bee culture, and, so far, have found it a pleasant, instructive and entertaining rural pursuit. I can not speak in terms of too high commendation, of the extractor, knife and smoker you sent me; they work splendidly. Next to my wife and little ones, my little apiary is the most attractive feature of my home; my vines and fruit trees interest me in their turn, but for a never tiring and real pleasure, I turn to my bees.

If your theory is correct in regard to drones being pure from an Italian queen that has mated with a black drone, there is no reason why every one who has bees in movable frames, should not be able, with one pure queen, to purely Italianize all his bees. The dollar queen business is certainly a blessing to the bee-keeping world; I have bought quite a number this season, mostly from W. P. Henderson, of Murfreesboro, Tenn. Their progeny are now out, and they are beautiful; they seemed to be as well marked, as those from my tested queens.

I commenced this season with 8 colonies of Italians and 6 blacks; I now have 24 colonies, 16 Italians and 8 hybrids, all in good shape, and I expect next season, with the help of GLEANINGS, to make the honey fly.

J. R. PARK.

Lavergne, Tenn., Aug. 15th, 1877.

Our imported queens very seldom produce queens that are uniformly marked; and as we find variation in color, almost all through both the animal and vegetable kingdoms, I do not think we can make that alone, much of a criterion. The general rule, laid down by Langstroth and others, is to judge by the markings of workers, and pay little or no attention to the color of either queens or drones. Dark colored queens reared from pure mothers, frequently produce the very finest marked workers. We find queens, a great part of the queen progeny of which, is light and uniform in color, but I have never had one that did not give *some* dark queens in cool fall weather.

MOVABLE ROOFS FOR HIVES.

THEY are made from cypress shingles 2 feet long, or "shakes" as they are here called, rived thin and shaved at one end, for which I pay 25 cts. per 100 pieces. Placing these side by side, without lapping, upon the bench, with the lower ends in line, nail the thin ends to a strip 3 feet long and about 1¼ inches square. This is the "ridge pole." Another light strip, say ⅜x¾ inches, is nailed to the under side of the shingles, about 6 inches from their lower end. Nails that can be clinched, should be used for the light strips. This makes one side of the roof; let it hang down beside the bench, with the ridge pole resting on the edge of the bench, while a row of shingles, like the first, is nailed on at right angles to the other, and the lower ends secured by a strip ⅜x¾ as before. This makes a roof 3 feet long, with sides of 2 feet each. To retain them in this shape, a light strip is nailed to the edges of the shingles at each end of the roof, about ⅓ the distance below the peak. Made in this way, they are inexpensive, very light to handle, and make the best possible shade, leaving the air to circulate freely over and all about the hive.

I had 65 of them in use last season, and had no combs melt down, no clustering out, and my colonies averaged me over 100 lbs. each, very choice comb honey. Previous to the use of these covers I was occasionally troubled with melting down of combs. Resting on the hive, like a roof, not only do they protect the hives from the sun, but from rain and snow also, though they were not designed for the latter purpose. I have left mine on all winter, and find them quite an advantage. They can be taken off or replaced very rapidly, more so than can can the covers to the hives, so that but a few moments are required to remove all mine.

As to their being unsightly, I think they are the reverse, and were they otherwise, they would not suit me, for I am very particular, really "old maidish" they tell me, about the appearance of my hives and grounds, and can not tolerate sticks or rubbish of any kind in my apiary. My hives are well puttied and painted, of different colors, and stand just 6 feet from center to center each way. With these movable roofs they do present such a *comfortable* appearance, I am sure you would like them Mr. GLEANINGS; at least, all who see them admire them very much.

You might think, being so light, they would the more readily blow off every time there came up a good stiff breeze, and thus expose your hives to the sun, though ever so hot, or keep you trotting to replace them. At least, that is what I at first feared. But the fact is, during all of last season, out of 65, not more than two or three were displaced by the wind. So far, this season, we have had two severe wind storms, during one of which, my corn barn, 12x30 ft., was blown clear from its foundation to the ground; but only a few of the movable roofs were blown from the hives; though I feared I might, one morning, find many of my hives turned over. I have never had a hive blown over. W. W, HIPOLITE, M. D.

De Vall's Bluff, Ark., April 12th, 1877.

FIXED OR STATIONARY UPPER STORIES.

ARE there not advantages in a hive, the upper and lower stories of which can be taken apart? It seems to me that when the upper story is stationary, it would be a little incovenient getting down to work in the brood chamber.

This is a matter on which I have carefully experimented, and I much prefer a stationary upper story, as in the chaff hive. Observe that you cannot take out the lower frames of an old style L., or Simplicity hive, unless you first remove the upper story; if the 10 frames are full of honey, you cannot well lift the whole at once, and if you could, you could not well replace it without killing many bees. I have lifted off the upper stories many times when filled; sometimes alone, and sometimes with an assistant to take one end; sometimes the frames above, will be attached to those below, and for a variety of reasons, I now almost invariably remove the greater part, if not all of the upper frames, before lifting off the upper story. When empty it is a very simple matter to take it off, but with a powerful colony of bees, it is a task indeed, to put it back without killing any of them. If you doubt this statement, take a look at any movable upper story, during extracting time, and see if you do not find that bees have been crushed between the joints. I will say the same in regard to movable sides, close fitting frames at either the tops or sides, or any thing else about a hive where pieces are to be closed up while the bees are on them. Their owners say they do not kill bees, but just look and see if they have not killed them. My friend, are there any dead bees to be found in the joints to *your* hives? you can answer the question yourself.

In using the chaff hive, we are obliged to lift out the upper frames as before, but we have no upper story to lift off. There is no loose thing about, and the whole inside is as simple, clean and free from "traps and cog-wheels," as is the inside of a "bran new" tub. Now comes the question: Is it not more inconvenient to reach down so deep to lift the frames out, than if the upper story could be lifted off out of the way? Well, it is somewhat; but the chaff hive is substantial enough to allow us to lean our body against it, while lifting out the combs, and since becoming accustomed to it, I rather prefer to work with it. On account of cheapness, I prefer the Simplicities, for all new colonies the first season, and for light hives to be moved about the apiary during the summer time.

FOUNDATION FOR COMB HONEY.

WE clip the following from the reports of the National Convention:

> A. J. King had received a box of white clover honey from Novice in his shipping case. It was beautiful to look upon, but when using it he found that the foundation used was thick, and not thinned out by the bees one particle. He did not think its use in boxes could be tolerated.
>
> T. G. Newman remarked that he had similar experience to Mr. King's. Novice also sent him a case of honey to dispose of for him, which, upon being used, proved to have a regular fish bone in it, (the thick foundation in its original state) and that such, if used in that way, would injure the sale of comb honey. If used in boxes it should be exceedingly thin.

We read the above, with perfect astonishment, the more, as the cases of honey sent friends King, and Newman, were built in section boxes containing but a narrow strip of fdn. under the top bar. The honey was sent them to test the shipping qualities of our shipping boxes, and not because we had not abundant demand for it at home, at good prices, as we have heretofore mentioned. For fear something had escaped our observation in the matter, a card was sent Stair & Co, who have sold considerably over a ton of it for ourselves and neighbors. The following is their reply:

> With all the honey we have sold this season, in sections, both for you and others, we have not had one word of complaint about fdn., either from our retail customers, or from dealers: a very conclusive evidence that those dealers had no complaint from their customers. We did not, at any time, withhold the fact that it was made on artificial comb fdn., and yet, instead of any objections, all who tried it wanted more. For our part, we can not conceive of any difference between pure wax, whether made into comb before or after melting, as the melting process does not affect any chemical change in the substance. Let the fdn. be made of pure wax, as thin as practicable, and we predict that no one will find fault.
>
> STAIR & KENDEL.
>
> Cleveland, Ohio, Nov. 8th, 1877.

It would be foolish to spend time arguing such a matter, for the fdn. is now in the hands of thousands, and they can, in all probability, tell whether they want it or not. The honey that our friends condemn, brought 25c. readily, and a part of it was sold for 27; a crop like Doolittle's could easily have been sold for 25c, yet his built on natural combs—as we suppose—only brought 20c. The following is just at hand:

> Thurber paid Mr. Doolittle 20 cts. per lb. for the honey to which was awarded the $50.00 *Gold Medal.* They paid me 25 cts. for the 90 lbs. I exhibited in competition, Mr. Thurber wishing one case to send to friends in *England*, and the other two to distribute to friends about N. Y. City including members of the press. The honey I exhibited was built upon *Comb Foundation*, which the Convention (except perhaps Mr. Nellis and myself) "went back upon," or condemned its being used for starters in surplus boxes.
>
> C. R. ISHAM.
>
> Peoria, N. Y., Oct. 25th, 1877.

We have filled our sections, the past season, only about $\frac{1}{3}$ full, because we cannot well ship hives by freight and express safely, with a larger piece. In our own apiary we used them put up in the same way, to avoid the confusion of having two kinds on hand. We have often, when eating the honey, remarked how far the yellow wax extended below where the fdn. reached, for they use the wax taken off in thinning it down, to build out the new comb below. Close to the top bar, we often find a thick ridge of yellow wax; this the bees probably leave to give the new comb strength, and a careful examination will reveal much the same thing with most natural combs, but it is not yellow like that which our editorial friends found.

After reading over the above, it has occurred to me that perhaps I have been a little "set in my own way," in the matter. I have just been fixing "the ministers" bees for winter, with the chaff cushions and division boards, and I mentioned the matter to him. He agreed with me, that in the honey we examined at their house at tea, one evening in July, no difference could be detected between the honey below the strip of fdn., and that above it, but said in some honey they examined afterward, they found the bees had to some extent, omitted the thinning; but even then, he thinks it not noticeable enough to prove an objection to the honey by any one. Very thin fdn. can easily be made for comb honey, but it would necessitate keeping the two kinds on hand, instead of one. It is a great convenience to use the clippings from the fdn. for brood comb for the surplus boxes, but if the people demand it, we can make some drone comb considerably thinner than would be desirable for the brood combs alone, especially for comb honey.

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CLIMBING VINES FOR HONEY PLANTS.

A Correspondent in your Sept. No. asks if there is "a climbing vine that bears honey producing flowers." Yes; several. There is an annual, *Cardiopermum Haliacabum*, commonly known as Heart seed, or Balloon Vine, of the natural order Sapindaceæ. The nearly allied oeder *Celastraceæ*, furnish others, such as *Celastrus Scandens* and *Staphylea Trifolia.* The later is classed as a shrub, but with training may assame a trailing habit. There is, among the beautiful evergreens of the South, a honey producer, *Bignonia Crucifera*, commonly known as Cross Vine. Bees are so fond of this in its season, that hunters, from it, trace them to their "dens" without any other bait.

The Balloon Vine is especially to be recommended, because seeds can be obtained from any florist. It is as easy of cultivation as morning-glories, and it blooms from May till frost. To promote blooming, the pods may be kept pinched off. It is questionable, however, whether it is well to train honey bearing plants over your bee-hives. By a wise natural instinct they seem to prefer to pasture at a distance from their hiding place, and, as a fact, the flowers near them are most frequented by the workers from other colonies. The singing of these, around the hive disturbs it, as it robbers were about. This is particularly noticeable when you have the top off, and desire them to be quiet. An untimely buzz from a stranger over head, as a bumble-bee or wasp, brings them out with "angry like."

S. G.

Holly Springs, Miss., Oct. 12th, 1877.

BITTER HONEY, AND WHERE IT COMES FROM.

MEDICATED HONEY, A SUGGESTION.

THE season for honey in this locality has been from poor to middling. Bees came out of the winter weak, and losses were heavy; in fact it was the most trying winter we have had. Many bee-keepers lost all their stocks, and those who were favored in saving part, are badly discouraged. The average bee-keeper here, is completely demoralized; the outlook is anything but encouraging for the future. We think the cause of the great loss the past winter can be accounted for thus; bees gathered but little honey after Aug. 15th last year, consequently the breeding of bees was small, and stocks as a rule, were not strong with bees of any age. Honey in the comb, almost without exception, candied solid—like a marble slab, almost—and bees starved with plenty of such stores beside them. In conversing with a German friend who had lost all, I asked him what he thought the trouble was. He said "De honey vas werry pat—vas schstrong;" and no doubt he was nearly corect. There would be but little use of writing of these losses if there were no remedy. We think there is, and now is the time to apply it, in part at least. We would recommend first, stimulating the stocks by feeding in the fall, and secondly; to be *very* sure to put them in a warm dry depository, of some kind, for wintering. I lost no stocks last winter, although they were not as strong in numbers as usual when taken out of the cellar, in the spring. The *quantity* of honey gathered with me this season has been good, but the *quality* from about Sept. 1st to the 20th, was something fearful—bitter as soot—never heard of, saw or tasted the like; and the worst of it is, the bees have mixed it badly with other honey in finishing up. My loss, I think, will be from 500 to 800 pounds. The quantity of bitter honey is not large, but it is so very pungent, not only the *honey* but the *pollen*, also, of which they have collected considerable. The honey, in color, is golden and can be easily distinguished from the other. Where the bees have passed over the combs much, they are discolored by the pollen or flour.

The weed, or rather the name of the herb from which this bitter honey was gathered is (Scientific)—*Helenium Autumnale.* (Common)—Sneezeweed or Sneezewort. Botanical discription—Wild, in low grounds, 1 to 4 feet in height, with lanceolate toothed leaves, their base often decurrent on the stem, and a corymb of showy yellow flowered heads, the rays often drooping in autumn. It is known by the oldest settlers here by the name of Ague—blossom, Prairie Quinine, and was used as a remedy for bilious diseases. Had I known of such an herb, and that bees would collect honey from it, I could have removed what honey was in surplus boxes and thus have saved it. Bees were never known to gather honey from it here before, and it may not secrete it again for years.

Now friend Novice, I have a proposition to make. If you have got a friend, or what would be still better for the purpose, an enemy, who has the *shakes* right bad, I would be glad to give him a dose, (for that would be enough) of my celebrated Sneezewort—Ague—Blossom—Prairie Quinine—medicated honey, free of charge; only stipulating that I be by to see the operation. If he didn't *forget* he ever had the shakes, I will agree to stand the consequences!

I feel doubtful as to the result of wintering my bees on this honey, although the quantity in the hives is not large. I am hoping they will use most of it before it is time to place them in the cellar. I have two stocks made up late in the season, from nuclei. These have a large share of this honey, seem healthy and are breeding well. I will keep them on this honey for a test.

R. H. MELLEN.

Amboy, Ills., Sept. 30th, 1877.

The enclosed $1.00 is for two of your hybrid queens. We are afflicted in this country with what we call, for want of a better name, bitter weed, and our bees prefer it to golden rod which is blossoming profusely. Our hives have many of their surplus frames in the upper stories filled with beautiful looking honey, but it is unpalatable on account of this bitter weed, from which it is gathered. My plan is to divide the bees, leaving 6 or 8 full frames below, give all this surplus honey to the young swarms, and introduce your hybrid queens. This is my first season with bees. My stocks are wonderfully strong in numbers, and, I think, could well spare enough to begin two new colonies.

MRS. W. THURMOND.

Dry Grove, Miss., Oct. 1st, 1877.

SWEET CLOVER AND LUCERNE.

YOU ask for farther reports concerning sweet clover; I think if California had as much as we have in Utah, your side of the hills would not have the monopoly of the market this year, if their climate is like ours. Our chief dependence for honey is sweet clover; let it once get a start on your land and it requires no cultivation for it will take care of itself. It comes in bloom with us, the last week in June. I commenced extracting this year in the early part of July and continued until Sept., then let them fill up. They are now ready for winter. We pasture our cows on sweet clover through the summer, cut it for winter feed, (we cut it twice) and it gives us two crops of honey besides two crops for winter feed.

I commenced 1877 with 18 stands; have now 37. Extracted 2700 lbs. from them this season and made 120 combs. There is another clover here which I wish to mention, called Lucerne. It is excellent food for horses and stock for the farm; chickens and pigs also eat it. We cut it from 3 to 4 times in the season. There is an article, I think in Vol. III, which says Lucerne needs hoeing; the best way to hoe it is to put plenty of seed in the ground and let it alone until ready for cutting, then let the mower cut it. If you have only one pound of seed, don't put it on one acre of ground; if you do, you will have to "hoe" that Lucerne patch.

C. W. LEAH.

Spanish Fork, Utah Territory, Oct. 8th, '77.

GRAPE SUGAR.

LAST spring I had 8 fair box hives of bees and two weak ones, without queens I think. I then had no experience in modern bee-keeping. I read the article on the uses of grape sugar, which I sent you, and as soon as the bees began to look for something to eat, I offered them grape sugar as it came from the factory, placing it under the hives in small lumps. I could not see that they used any of it. I then made a syrup of about 5 lbs. of grape sugar and one of water, heating it in mixing, and putting in perhaps ½ lb. of honey the first time. I gave them this in a feeder placed several rods from the hives, in a sheltered spot where the sun would shine upon it. The bees soon found it and on pleasant days would carry away from 2 to 4 lbs. of the syrup. I continued this until fruit blossoms began to appear. The bees then visited it less, and flies and other insects more, so I discontinued the syrup, having fed by estimate about 50 lbs. of the sugar. About the first of June the bees began to swarm and continued until there were 33 swarms. The two weak swarms did not gain any, so I hived new swarms in with them and in that way made strong colonies of them. I now have them all in Lawn or Simplicity hives. I have lately offered them the syrup to see whether they would take it when honey was still plenty in the fields. Some did take it freely, others not. When feeding in the spring it would granulate in the bottom of the dish on warm days, but I found none in the combs when transferring. The agent of the factory at Davenport, Iowa, suggested that it might granulate in the combs if fed in large enough quantities to be stored away and remain for a considerable length of time. I designed to make further use of it before offering my experience to the public but as you have asked for it, I give it now.

From my knowledge of its manufacture and uses, I am satisfied that when it is properly prepared it is not deleterious to animal life, but a wholesome article of food; yet I would advise everyone designing to use it for feeding bees or otherwise, to order it direct from a factory and state the use they design it for, it being differently prepared for different uses.

I have no doubt that the ordinary refined sugar of commerce is largely composed of grape sugar, so it don't seem wise policy to pay 10 or 12c per lb. for that, when grape sugar can be had for less than half that price, and nearly if not quite as good for feeding bees as the former, even if not mixed. They turn out a syrup at the factories also, but it is not recommended to use for bee feeding; besides, it costs more than that made from the sugar.

D. C. UNDERHILL.

P. S.—I understand there is a factory of grape sugar and syrup, at Freeport, in this State.

D. C. U.

Seneca, Ills., Sept. 22th, 1876.

TOO MUCH HONEY.

AT the commencement of our honey harvest, I examined my bees, and pronounced them in good condition. As extracted honey does not sell very readily here, I thought I would "go for" box honey. My boxes hold 10 and 20 lbs, having ⅜ inch pine bottoms, and glass fronts. They were placed directly above the frames, no honey board intervening. They commenced work in these at once, but their progress was slow. I looked at their boxes often, but did not open the body of the hive, for about two months. Noticing your advice in Sept., No., that this month was a good time to see that stocks were in good condition for winter, I went to work and to my astonishment, found the body of the hive literally full of honey. I opened one hive that had not a particle of room for brood. The cards of comb were built down to the bottom bar of the frames, full of honey, every cell capped over, and about 15 lbs, in boxes above, not full? Other hives had from 2 to 4 square inches of inferior looking brood at the lower part of the frame. I put the extractor to work at once, of course. Will these bees, so late in the season, raise brood enough to keep up the strength of the colony, during the winter? or what shall I do with them? Bees are still gathering some honey, at this date. If I get my bees through the winter, I think I shall adopt the Simplicity hive, with small section frames, for surplus honey. A. C. WASHBURN.

Bloomington, Ills., Sept., 13th, 1877.

In our experiments with section boxes, we have been led to believe the bees would invariably make room for the queen, if they had a convenient place to put the honey. You do not say what frame you use, but I cannot help thinking such would not have been the case, had you used the shallow L. frame that we do. If you wish the bees to start promptly in the boxes they must be brought near the centre of the brood nest, and I know of no better way of doing this, than with the shallow frame. Bees can be made to rear brood through Sept. and Oct., but they will have to be fed regularly to have them do it. But after all, the most important thing is, to know at all times, just exactly what is going on inside the hive; unless you attend to this, all that books and journals can aid you, will be of little avail.

WINTERING BEES IN HAY, AND TOO MUCH HONEY.

I began bee-keeping when 14 years of age, in 1871, having found a wild swarm on a leafy stump. We put them in an L., hive, took a bee paper, and Italianized the next year. In the fall of 74, having bought some, we had 18 stocks of hybrids in frame hives 12x13x20 inside, which we prepared for winter, as follows. We built a house 6 ft. high and wide, by 18 ft. long. Late in Oct. we put a row of hives along each side of the house, 6 in. apart, with 4 in, between them and the weather, leaving a small passage-way through. We then filled the space in front of, and between the hives, with dry prairie hay, and crammed the house full of hay up to the roof. We were absent all winter, and on returning in March, *not a live bee remained*. The winter was very severe; the colonies were of average strength, and left honey in the hives. We have since wintered bees as before, in a cellar, with good success.

In your remarks you say "double up until all are strong colonies. Now crowd the bees on to 6 or 7 combs,—tuck them up snugly, and feed until these 6 combs are bulged with sealed honey &c." Now are you sure bees will winter well with no empty comb on which to cluster? I have been taught differently, though not by experience. Bees have done well this year, and are in good condition for winter.

OLIVER FOSTER.

Mt. Vernon, Iowa., Oct. 29th, 1877.

Your bees were in very large hives, and your nice dry hay was so far away from them that it did them harm rather than good, for it deprived them entirely of the sun's rays, which they would have had on their summer stands. Were you, some frosty night, to put the bed clothes over the top of the bed posts instead of close to your body, you would be in much the same predicament that your bees were. My directions were given for the first of Oct., and if the bees were put on, even solid combs, at that time (although I did not quite mean that), they would have plenty of empty cells to cluster in, by the first of Dec. I have, many times, seen the combs too full for brood rearing, but I have never seen too much honey at the approach of winter, when there were plenty of bees. If you take a look at your bees in one of these large hives during a frosty morning, you will find them gathered into a space so small that you would, at first, say they were all gone. Now if you make the colony large, and the hive small, you will finally have them right against the top, bottom and sides, and in this condition they will have a warm room all winter; so warm, in fact, that they can be seen standing in the doorway almost all winter long; and this is the very condition in which we find our bees in the chaff hives. The walls and floor being of very thin lumber, are easily warmed through, and kept warm all winter.

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REPORT FROM MICHIGAN.

DRONES, FDN., SEPARATORS, &C.

AS the hurry of the season is now over, and the bees all nicely stored away in their chaff boxes, we will tell you what we have been doing the past season. First, then, our season has not been extra, notwithstanding flowers were never more abundant; but during the entire month of June, the nights were very cold and but a small amount of clover honey was gathered. We had, in spring, 74 No. 1 colonies and 71 of them sent out first swarms. Not a second swarm issued; all surplus queen cells were cut out the 8th day from issue of the first swarm. We had, all told, 90 first swarms, but increased only 33, using the bees for gathering honey. Our entire crop was only 4000 lbs., all clover; no fall honey.

As we have no basswood, our season for surplus closed about the 15th or 20th of July; but enough was gathered from golden rod to amply supply all stocks for winter, and as we still hold that 35 pounds is safer than 25 to last from flowers to flowers, we have kept that amount in each hive. One hundred and two colonies are packed away in 350 bushels of wheat chaff. "Chaff is on the rise."

Our last article was on the Drone, or "How many do we need in an apiary of 100 colonies?" Well, in April and May last, we built all of our 74 colonies up with perfect worker combs, with the exception of 4 stocks; each of these 4, had a piece of drone comb about 4 inches square. We were told, last spring, that we should lose a great many young queens, but we lost only 4. Now I am not going to tell you how much honey it takes to raise and keep a large batch of drones, but every practical bee-keeper knows that hives infested with large numbers of drones store little or no surplus; and if we reverse the order of things, and raise workers in their stead, it will soon be seen. But probably you, Mr. GLEANINGS, will argue that there is now no use of bothering about drone comb. The remedy is fdn., and all worker in brood chamber. Well, this is all very nice, and no doubt will radically cure the great evil, but my dear Mr. Novice, do you not know that at the present price of fdn. it would require quite a large cash outlay to begin the season and then have to risk the bees gathering honey enough to pay for it? We highly prize fdn. for starters in our surplus boxes and sections, but think it too costly for the brood chamber. It may be that the bump of caution is rather prominent on our head; time will prove it.

We are really glad to see our Bro. Doolittle roll in such big figures. But O dear! when Novice tells us that his location is nothing extra—Well we think about as Pat did abou tthe potatoes in Ireland; he said it was'nt much of a country for potatoes, but they did raise some "awful big" ones. Please ask him whether he uses Flander's Bee Charm or not.

Our honey was nearly all in your sections and all sold at 20c. We used no separators, and have but a small amount but what could be sent to market in our cases for retailing, and I am sanguine that it can be remedied by *filling* sections with fdn. instead of starters, as the trouble comes from the bees building upward from the bottom, instead of downward from the top. J. BUTLER.

Jackson, Mich., Oct. 10th, 1877.

BEES ON SHARES. There are cases doubtless, where it is advantageous to both parties, to let bees out on shares, but as a general thing, I would advise owning your bees, even though it be but a single colony, before you commence to build up an apiary. It almost always happens that one of the parties is dissatisfied; and as is frequently the case with such partnership arrangements, both the parties have been wronged, to hear their story for it.

I believe it is customary for one of the partners to furnish the bees, and the other to do the work; at the end of the season, everything is divided equally. If new hives, Italian queens &c., are to be used, the expense is equally divided. The division of stock is usually made as soon as the honey season is over, and each party takes his chances of wintering. To prevent any misunderstanding, I would advise that the whole agreement be put in writing, and that whenever something turns up for which no provision has been made, some agreement be made in regard to it, and that this be put in writing also. Instead of inquiring what other folks do, arrange the matter just as *you* can agree, and make up your minds in the outset that you are going to remain good friends even if it costs all the bees and your whole summer's work.

BORAGE. (*Borago Officinalis*). This has been at different times recommended for bees, but as those making the experiment of planting several acres of it, did not repeat it succeeding years, I think we are justified in concluding it did not pay. I have raised it in our garden, and some seasons the bees seem very busy on it. It has a small blue blossom, and grows so rapidly, that a fine mass of bloom may be secured by simply planting the seeds on the ground where you dig your early potatoes. If it is to be raised by the acre, it should be sown at about the same time and much in the same manner, as corn is sown broadcast.

CANDIED HONEY. All honey, as a general thing, candies at the approach of cold weather. It has been suggested that thin honey candies quicker than thick, and such may be the case, for honey that has been perfectly ripened in the hive, that is, having been allowed to remain in the hive several weeks after being sealed over, will sometimes not candy at all, even if exposed to zero temperature. As some honey candies at the very first approach of cold weather, and other samples not until we have severe freezing weather, we can not always be sure that perfect ripening will prove a preventive. It is very seldom indeed that we find sealed comb honey in a candied state, and we therefore infer that the bees know how they can preserve it best for their use; for although they can use candied honey when obliged to do so, it is very certain that they dislike to bother with it, for they often carry it out to the entrance of their hives when new honey is coming in, rather than take the trouble of bringing water with which to dissolve it.

HOW TO PREVENT HONEY FROM CANDYING.

By following out the plan of the bees, we can keep honey in a clear limpid liquid state, the year round. The readiest means of doing this, is to seal it up in ordinary self-sealing fruit jars precisely as we do fruit. Maple molasses, syrups and preserves of all kinds, may be kept in the same way, if we do our work well, almost as fresh, and with the same flavor, as the day they were put up. We should fill the jar full, and have the contents nearly boiling hot when the cover is screwed on. The bees understood this idea perfectly, before fruit jars were ever invented, for they put their fresh pollen in the cells, cover it perfectly with honey, and then seal it up with an air tight wax cover. To avoid heating the honey too hot, it may be best to set the fruit jars in a pan of boiling water, raising them up a little from the bottom, by a thin board. If the honey is over-heated, just the least trifle, it injures its transparency, and also injures its color; in fact it seems almost impossible to heat some kinds of honey at all, without giving it a darker shade.

CANDIED HONEY CONFECTIONERY.

If you allow a barrel of linden or clover honey to become candied solid, and then scoop out the centre after one of the heads is removed, you will find, after several weeks, that the honey around the sides has drained much after the manner of loaf sugar, leaving the solid portion, sometimes nearly as white as snow, and so dry that it may be done up in a paper like sugar. If you now take this dry candied honey and warm it in an oven until it is soft, it can be worked like "taffy," and in this state you will pronounce it, perhaps, the most delicious confectionery you ever tasted. You can also make candy of honey by boiling, the same as molasses, but as it is little if any better, and much more expensive, it is seldom used.

CANDY FOR BEES. Very little is to be added to the directions just given for making candy for the queen cages, except that we are to work with larger quantities.

If your candy is burned, no amount of boiling will make it hard, and your best way is to use it for cooking, or feeding the bees in summer weather. Burned sugar is death to them, if fed in cold weather. You can tell when it is burned, by the smell, color and taste. If you do not boil it enough, it will be soft and sticky in warm weather, and will be liable to drip when stored away. Perhaps you had better try a pound or two at first, while you "get your hand in." Our first experiment was with 50lbs. it all got "scorched" "some how."

As the most convenient way of feeding candy that will probably be devised is to put it into your regular brood frames, I shall give directions for making it in that form. If you do not like it so, you can break it out, or cut it in smaller pieces with a knife, when nearly cold.

Lay your frame on a level table, or flat board; perhaps you had better use the flat board, for you need some nails or wires driven into it, to hold your frame down close, that the candy may not run out under it. Before you fasten the frame down, you will need to put a sheet of thin paper on your board, to prevent the candy sticking. Fix the board exactly level, and you are all ready to make your candy. If you have many stocks that need feeding, you can get along faster, by having several boards with frames fastened on them. You will need some sort of a sauce-pan, (any kind of a tin pan with a handle attached will do) that will hold about 10 lbs. of sugar. Put in a little water —no vinegar, cream of tartar or any thing of the sort is needed, whatever others may tell you—and boil it until it is ready to sugar off. You can determine when this point is reached, by stirring some in a saucer, or you can learn to test it as confectioners do, by dipping your finger in a cup of cold water, then in the kettle of candy and back into the water again. When it breaks like egg shells from the end of your finger, the candy is just right. Take it off the stove at once, and as soon as it begins to harden around the sides, give it a good stirring, and keep it up until it gets so thick that you can just pour it. Pour it into your frame, and get in just as much as you can without running it over. If it is done nicely, the slabs should look like marble when cold, and should be almost as clean and dry to handle. If you omit the stirring, your candy will be clear like glass, but it will be sticky to handle and will be very apt to drip. The stirring causes all the water to be taken up in the crystalization or graining process, and will make hard dry sugar, of what would have otherwise been damp or waxy candy. If you wish to see how nicely it works for feeding bees, just hang out a slab and let the bees try it. They will carry it all away as peaceably as they would so much meal in the spring.

You can feed bees with this any day in the winter, by hanging a frame of it close up to the cluster of bees. If you put it into the hive in very cold weather, it would be well to keep it in a warm room, until well warmed through. Now remove one of the outside combs containing no bees, if you can find such a one, spread the cluster, and hang the frame in the centre. Cover the bees at the sides and above, with cushions, and they will be all safe. If a colony needs only a little food, you can let them lick off what they like, and set the rest away until another time, or until another season.

WHAT KIND OF SUGAR TO USE FOR MAKING CANDY.

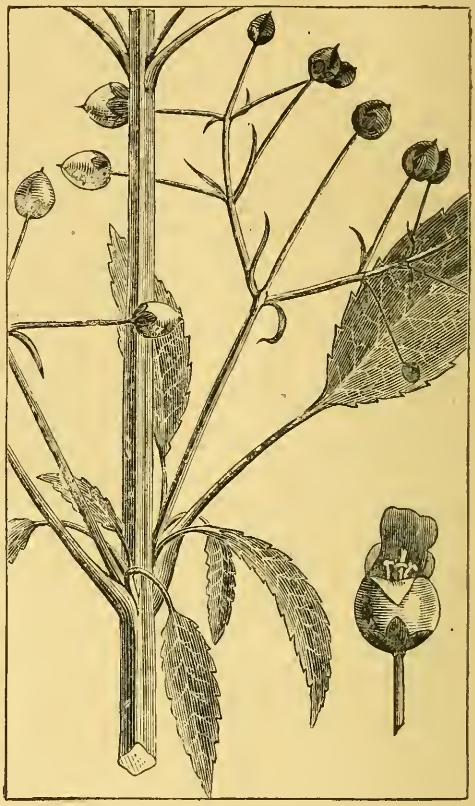
We have generally used the coffee A, but any of the sugars that are used for feeding will answer, if we except the new grape or corn sugar. The bees seem to be quite loth to use this in any other form than syrup, and we hardly know why. Common brown, and maple sugars, work nicely, although it is plain to be seen that the bees prefer the better article; for this reason, we have used the latter. Coffee A sugar now costs us 11c. by the barrel, and retails for 12c. As we have to pay a confectioner 2c. for making, the candy cannot well be sold at retail for less than 15c. As much as ¼ part of wheat flour can be added to the sugar and it will be nearly as white and hard, but the labor of making is very much more, for it must be boiled very slowly, and stirred to prevent burning. The bees seem to prefer that containing the flour, and it has the effect of hastening brood-rearing, like pollen. After it is stored in combs, it looks like honey except for a slightly milky or turbid appearance. It has a very perceptible flour taste. It will, in all probability, be as good or better for winter stores; we are at present—Oct., 1877—taking measures to test it thoroughly. If rye flour and grape sugar could be combined so as to make a dry clean candy or even cake that would be readily taken by the bees, it seems as if it would be the bee-keeper's desideratum, so far as cheapness is concerned; but although the bees take both readily when separate, we have not as yet succeeded in producing a "staff of life" for the little fellows that will not cost to exceed 5c. per lb.

CAUTION IN REGARD TO CANDY MAKING.

Before you commence, make up your mind you will not get one drop of sugar or syrup on the floor or table. Keep your hands clean, and every thing else clean, and let the women folks see that men have common sense; some of them at least. If you should forget yourself, and let the candy boil over on the stove, it would be very apt to get on the floor, and then you would be very likely to get "your foot in it," and before you got through, you might wish you had never heard of bees or candy either; and your wife, if she did not say so, might wish she had never heard of anything that brought a man into the kitchen. I have had a little experience in the line of feet sticking to the floor and snapping at every step you take, and with door knobs sticking to the fingers when touched, but it was in the honey house. We have got a 50 cent stove—came from the tinsmith's old iron heap—that has been made to look quite respectable, and it proves very handy for melting candied honey, making candy, warming syrup in cold weather, &c., and if you keep a wash basin and towel near by, and keep the honey house neat and clean, it is a real pleasure to do all this kind of work.

FIGWORT. (*Scrofularia Nodosa*). This plant is variously known as Square Stalk, Heal All, Carpenter's Square, Rattle Weed, &c., the name indicating some of its peculiarities, or real or supposed valuable medical properties. Much has been recently said in regard to it, under the name of the Simpson Honey Plant, J. A. Simpson, of Alexis, Ills., having first called attention to it.

The engraving given above, will give a fair idea of it, and will enable any one to distinguish it at once, if growing in their locality. The pretty little ball shaped flower, with a lip somewhat like the Pitcher plant, is usually found filled with honey, unless the bees are so numerous as to prevent its accumulation. This honey is of course thin, like that from clover or other plants, when first gathered, and is in fact rather sweetened water, but still it is crude honey, and the plant promises to furnish a larger quantity than any thing else I have met with. We have had one report from a single plant under cultivation, and as might be expected, the quantity of honey yielded was very much increased, and the plant grew to a great height continuing to bloom and yield honey for full four months. The little flower when examined closely, is found to be very beautiful. The following is Mr. Simpson's description of the plant:



THE SIMPSON HONEY PLANT.

> It is a large coarse grower from 4 to 8 feet in height, coarse leaf, and branching top covered with innumerable little balls about the size of No. 1 shot. When in bloom there is just one little flower leaf on each ball which is dark purple, or violet at the outer point and lighter as it approaches the seed ball. The ball has an opening in it at the base of the leaf. The ball is hollow. It is seldom seen in the forenoon without honey shining in it. Take a branch off and turn it down with a sharp shake and the honey will fall in drops. It commences to bloom about the 15th of July and remains until frost. Bees frequent it from morning till night. The honey is a little dark, but of very good quality. I think it would be best to sow in seed bed and transplant.

It grows in its natural state among brush heaps, in fence corners, and amid hedges, to the height of from 3 to 6 feet. The seed is easily gathered in Sept. and Oct. As they vary much in size, it is likely that we could, under cultivation, produce a variety with much larger balls, by a careful selection of the seeds. In doing this, we should be careful to select also such as produce much honey, and if possible, much *good* honey. Bees and plants too, are like wax in our hands, if we go to work understandingly.

CLOVER. (*Trifolium*). The most important of the Clovers, common White Clover (*Trifolium Repens*), which everybody knows, is perhaps at the head of the entire list of honey producing plants. We could better spare any of the rest, and I might almost say all the rest, than our White Clover that grows so plentifully as to be almost unnoticed, almost everywhere. But little effort has been made to raise it from the seed, because of the difficulty of collecting and saving it.

There is a large variety known as White Dutch Clover, that is sold by our seedsmen, to some extent. I have not been able to gather whether it is superior to the common. The common Red Clover—*T. pratense*—yields honey largely some seasons, but not as generally as does the white, nor do the bees work on it for as long a period. While working on Red Clover, the bees bring in small loads of a peculiar dark green pollen, and by observing this, we can usually tell when they are bringing in Red Clover honey. The Italians will often do finely on Red Clover, while the common black bees will not even so much as notice it. The general cultivation is much like that of ALSIKE CLOVER, which see, but the safest way for a beginner, is to consult some good farmer in his own neighborhood, as different localities require slightly different treatment. The same will apply to saving the seed, which can hardly be saved profitably, without the use of a clover huller, made especially for the purpose.

While most persons seem to tire, in time, of almost any one kind of honey, that from Clover, seems to "wear" like bread, butter and potatoes; for it is the great staple in the markets, and where one can recommend his honey as being pure White Clover, he has said about all he can for it.

There are quite a number of other clovers such as Lucerne, white and yellow Trefoil, Alfalfa, Esparcette &c., but none have been sufficiently tested to warrant recommending them much. Strong statements are made in regard to the value of white and yellow Sweet Clovers, and the former under the name of Mellilotus Leucantha was quite extensively sold some years ago. From the fact that those who invested in it gradually dropped it, I would not advise investing much money in it to commence with.

SWEET CLOVER, (*Mellilotus alba or Mellilot*), has some valuable traits, as standing frost, and drouth, but many times and seasons, the bees will hardly notice it at all. The statement has been made that an acre will support 20 colonies of bees, and afford from 500 to 1000 lbs of honey. Such statements are usually made by those offering the seeds for sale, and although they may be honestly given, I think they should be received with due allowance; about 4 lbs of seed are needed for an acre, sow like alsike. It will grow on almost any barren hillside, but it is a bad weed to exterminate; if however, it is mown down to prevent seeding, the roots will soon die out.

COMB FOUNDATION. Since the introduction of this fdn, within the past few years, many difficult points have been solved completely; such as how to insure strait combs, how to insure all worker comb or all drone comb, as the case may be, and how to furnish the bees with the wax they need without being obliged to secrete it by the consumption of honey. It is so simple a matter to make a practical test of it by hanging a piece in a hive when honey is coming in, that I think I may be excused from describing the way in which the bees use it, at any great length. Neither will it be needful to dwell on the successive steps by which it was discovered, and brought to its present state of perfection. The first mention we have of wax foundations that were accepted by the bees, was published in the German Bee-Journal as far back as 1857. Mr. J. Mehring, of Frankinthal, Germany, if I am correct, seems to have been the original inventor. For nearly 20 years, the matter seems to have slumbered, although different ones at different times, among whom was our friend Wagner, took it up, made some improvements, and dropped it again. The sheets made in both England and Germany, had no side walls, but simply indentations. Mr. Wagner added shallow side walls, making it much more like natural comb. Until recently, it was all made with a pair of plates, but it did not require much wisdom to decide that such an article if wanted in large quantities, should be rolled out by machinery. In the latter part of 1875 I talked with a friend, who is quite an artist in the way of fine mechanical work and machinery, and told him what I thought was wanted. The result was that he made a machine for me, of which I submit the engraving below, that would roll out a continous sheet, with very fair side walls of wax, and perhaps superior to any thing before made. Since then he has made machines for, not only many parties in our own country, but they have also been sent to both England and Scotland. Mr. A. Washburn, of Medina, O., is the inventor and manufacturer of these machines. Many tons of wax have been worked up during the present year—1877—and the demand is increasing so steadily, that it is quite probable the supply of wax will be the only limit to its manufacture and use.

Many experiments have been made with a view of substituting something in place of real bees-wax, such as paraffine, ceresin, and the like, but all, so far, have resulted in failure. Paraffine will make beautiful fdn., and the bees will adopt it at once, but as soon as we have warm summer weather, the beautiful comb will, honey and all, fall down in a shapeless mass in the bottom of the hive.

HOW TO MAKE THE WAX SHEETS.

This is done by dipping a sheet of galvanized iron in a tall vessel of melted wax. The wax must be neither too hot nor too cold, and the dipping plate must be kept cold, by immersing it in cold water, before each sheet is dipped. The dipping plate is about the thickness of a silver dime, and a handle of wood is fixed to its upper edge. When the plate is first used, you will probably have to rub it lightly with soap and water, to make the wax come off readily, and you will need to use a little soap at the upper edge, all the time, to get the sheet started. As soap seems disagreeable to the bees, we now dispense with its use entirely, using instead, a bark to be had of the druggists, called *soap bark*. This bark is simply broken into bits, and thrown into a little water, until the water becomes sufficiently soapy. This leaves no trace on the wax sheets in the way of either taste or smell. Brush the water over the plate well, to make it adhere, soap the upper edges, as directed, and you are ready to plunge it into the melted wax. When it touches bottom, lift it out immediately, and hold it above the melted wax until you see by its looks, that the wax has cooled enough to allow it to be dipped again. We usually dip twice; but if the wax is pretty warm, you may have to dip three times. After the last dipping, as soon as it has ceased to drip, dip it all over in the tub or tank of cold water. Take it out and commence to strip off the sheets. If too hot, the wax will break, and if too cold, it will stick; in the latter case you must scrape the wax off with a knife, and try again. After a little practice, you will make it go as fast as the sheets can be handled. Two men and a boy are needed to work rapidly. One dips, another takes off the sheets, and the boy brushes and wipes the dipping plates. Now your tub of water will very soon get warm, and as this will not do at all, ice must be constantly added. If much work is to be done, a tank made of boards is best, with an apartment for a block of ice in one end. Besides, the wax will be rapidly cooled, and at the same time lowered; to keep up the supply, we have a boiler on the stove, with a honey gate attached. This boiler is made large enough to take in the ordinary cakes of wax of commerce, and should be made deep so as to set down into the stove for the purpose of getting the advantage of rapid heating, and to allow all impurities to settle. Besides this, the boiler must be made double, and the outer space filled with water, for if wax is burned in the least, it is utterly spoiled for comb making. That we may get only the pure wax, the gate is put in near the top of the boiler, to allow all the impurities to settle to the bottom, and it has a sheet of fine wire cloth put in so as to strain the melted wax before it passes through it. Wax sheeted in this way, is of a light beautiful yellow, and the fdn. is fit for use in the surplus boxes, without any sort of bleaching. When you start up, your dipping boiler must be full of melted wax, and we have this also made double, with hot water all round it, that we may set it in the stove in place of the other when starting. With the above arrangement and number of hands, 400 lbs. can easily be dipped in a day. It will require considerable fuel, and perhaps 200 lbs of ice, for the day's work. When working rapidly, the water is apt to boil over on the stove; on this account a broad flaring lip of tin should be soldered to the top edge, and the inner boiler that holds the wax, should be carried up pretty high. Separate lots of wax cannot well be worked alone, unless of 100 lbs or more; as the above process will make bright wax out of the worst looking, it can hardly be thought desirable, to work lots separately.

ROLLING THE WAX SHEETS.

The machine shown (p. 3) is one of the small sized ones for rolling sheets only 5 inches wide. We at first covered the rolls with a lather made of soap and water, to prevent the wax sticking, but for the reason mentioned, slippery elm was substituted for the soap, and afterward it was found that starch, prepared just as the women use it, was just as good as anything. When the rolls are new; the wax will sometimes bother a great deal, but if the particles are carefully picked out with a quill tooth pick—any

BEES AND HONEY.

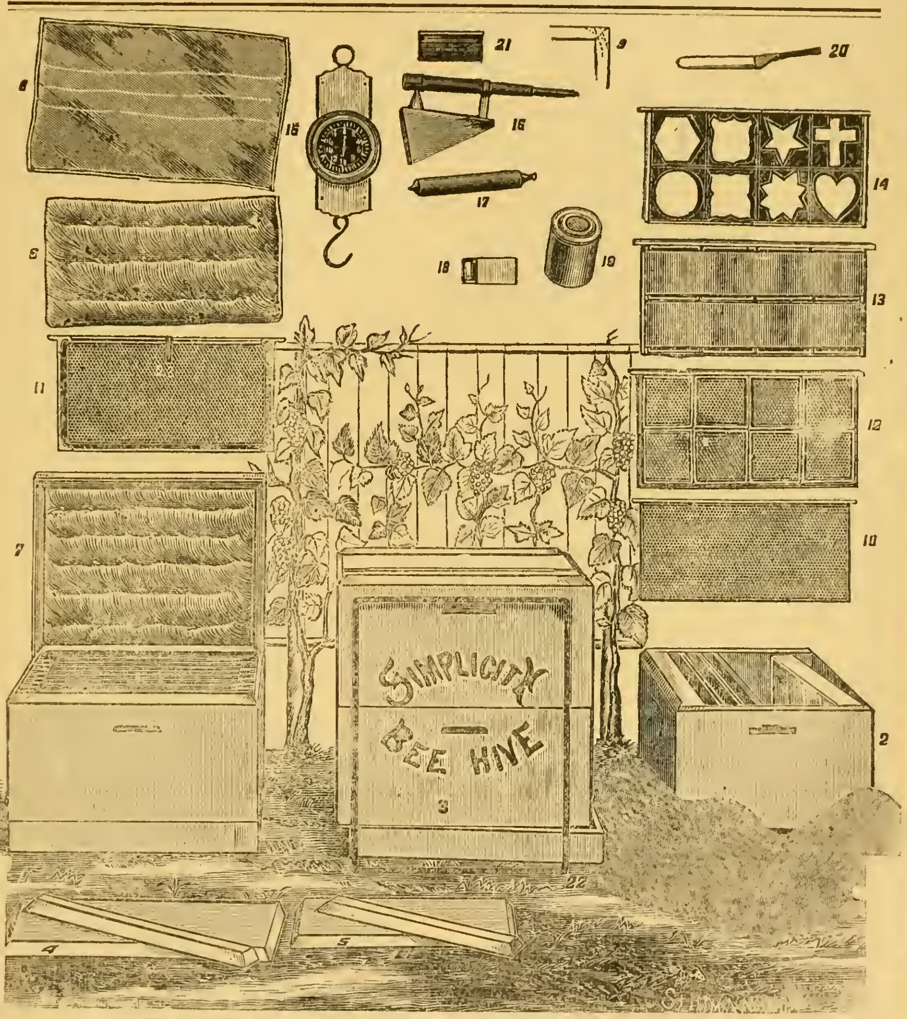
Our 11th Edition

Illustrated Circular & Price List.

OF

Implements for Bee Culture with Directions for their Use.

A. I. ROOT, MEDINA, O., DECEMBER 1st, 1877.



Implements for the Apiary.

No. 1, shows a Simplicity Hive, single story, with the sheet of Duck removed, so as to show the 10 frames in place. The Chaff Cushion is shown in the cover, where it is fastened by 8 or 10 tacks around the edge. You will observe that when the Cushion is thus fastened in the cover, we are obliged to have the sheet of Duck shown at No. 8, fitted closely over the frames that the bees may not get to the Cushion, or it would be stuck so tightly to the frames that we could never get the hive open. For wintering, a much thicker cushion is used, unquilted, and placed in an upper story. This Hive is shown with the entrance closed, by pushing it back squarely on the bottom board, while Nos. 2 and 3 are pushed forward so as to give a ⅜ inch passage for the bees. No.

2 shows the way in which we contract the entrance with sawdust, only it needs stamping down a little more. No 3 is a 2-story hive, being simply two bodies one over the other, with the cover removed, the covers and bottom boards being one and the same thing. In the foreground are seen the four simple pieces of which the hive is composed. The two large ones, are of course the side and end of a hive, and the strips lying on them are the pieces that are nailed under the cover, as will be readily understood by looking at the diagram on page 7. The iron frame leaning against No. 3, is the gauge to be slipped over the hives while they are being nailed. It is, inside, 20¼ by 16 inches, and is slipped over the hive both top and bottom, like a hoop. This holds them square and true, and shows when the stuff is just right. If they just fill the hoops, you can be sure that any hive you have will just fit any other, and that it will be exactly right for every frame in the apiary, if they are also made on a gauge, as they certainly should be, or at least the stuff should be cut to fit a gauge.

No 12 is a frame containing 8 section boxes filled with with fdn., and No. 13 is the same with the tin separators added. At No. 2 we see one of these frames of sections at each outside of the hive; this is the way in which we arrange a single story for comb honey, leaving the brood in the middle. At No. 3 the whole upper story is supposed to be filled with these frames of sections. No. 11 is a metal-cornered frame filled with fdn., and a transferring clasp, No. 23, is shown pushed down on the top bar, as they are used.

At No. 14 we have a frame of fancy sections. The fdn. is put in these by pushing them apart, and catching it between the two ⅜ boards of which they are made. No. 16 is the Quinby smoker, and No. 17 is the Doolittle smoker. No. 19 is a quart feeder. We should have added, in the proper place, that the artist has put quite a number of wires on the grape vine trellis, while but 3 are really needed. The grape vines are also heavy with foliage toward the top of the posts, during the hottest weather.

OUR PRICE LIST FOR 1878.

Bee keepers who are ready and willing to work for their honey, we believe are all busy, and are all so far as we know, realizing as fair a reward for the time and capital invested, as in other kinds of business. A few of the most keen and enterprising, are, as in all kinds of business, far outstripping the rest, and it rests with you alone, my friend, to determine what place in the ranks you will occupy. Just one piece of advice: However attractive the wares may seem that we are about to describe, we would say, don't get in debt for them; if you haven't the money to purchase, don't buy until you get it. Be humble and satisfied with little, and let your apiary grow of itself, and be self-sustaining. I say this because I *really* do not wish you to be disappointed. If you study the subject and become thoroughly familiar with the bees by actual work among them, both capital and bees will come as fast as you can handle either. I want to see you all prosper, and to do so, you must be cheerful, courageous and independent; above all, don't get crazy and extravagant if you should happen to get $25 or $50, as the proceeds of one colony in a season; prosperity is sometimes harder to bear than adversity.

IMPLEMENTS FOR THE APIARY.

We have carefully thrown out or remodeled everything in our list found in any way defective, and we offer nothing that we do not approve of and use in our own apiary.

We can ship promptly, by Freight, Express or Mail, (none mailable except those designated,) goods mentioned in the list in every number of GLEANINGS. Hives, Extractors, &c., can be sent much cheaper by Freight, but in this case they should be ordered three or four weeks before needed, if the distance is considerable. During the months of April, May and June, orders may sometimes be delayed several days, but our customers may rely upon receiving notice at once on receipt of all remittances.

At the prices given in this list, cash *must accompany every order;* as the sending of goods, C. O. D., entails an additional expense, and goods sometimes fail to be taken, we really dislike to send them thus, but if you are content to pay from 25 cents to $1 to the Express company to bring us the money, (which could be sent by P. O. Order for 10 cents,) we will send them C. O. D. when desired. Orders for frames or hives of dimensions differing from those named, will also be liable to some additional delay, especially during the "honey months."

RATE AT WHICH WE CAN PREPAY EXPRESS CHARGES.

	Cover.	*Hive.*	*Extractor.*
New York	$ .60	$ .75	$1.00
Chicago	.55	.65	.90
San Francisco	3.00	4.00	5.75
New Orleans	1.60	2.00	2.75
Galveston	1.90	2.35	3.20

HOW TO SEND MONEY.

If you do not wish to take any risk of loss, send P. O. Order, registered letter, or get a N. Y. Draft. But as all these ways are expensive, especialy for small amounts, I will make a suggestion. Probably not more than one letter in a thousand, is lost in the mail but to be on the safe side, we will assume that one in a hundred will be lost. The cheapest way is to get a Money Order, but even at the low price of 10 cents. we pay $10. to have the one hundred letters safe, besides the trouble of getting the Order. Had you put $10. in each of the hundred letters, and lost one of them you would have been no more out of pocket. This would show that it only pays to register amounts exceeding $10. To make it a little safer, call it $5., and we have for years sent all sums of less than $5., in the letters, and we have saved in fees, far more than the amount lost, besides saving our friends who recived it, the trouble of getting it cashed. This plan only applies to persons of known integrity, for when the money is sent, they may if disposed, say they never received it. If you do not know ME, *you had better not send me any loose money, for I may be only writing this to get the advantage. Do you ask why I do not stand the loss myself if it is only one letter in one hundred! I would cheerfully do this, were I not in danger of doing harm by making such a proposal in a public circular, for it would be too much like leaving the door to one's store open all night. Besides, I should have to charge a little more for goods, if I stood* ALL *losses. I would advise all to do business with as much economy as possible, but when losses come, I think it best that we each bear our share of them, cheerfully.*

We always consider it an especial favor to have customers inform us by postal card whether goods are satisfactory; whether our mode of packing is efficient; time taken in transit; whether Express or Freight charges were reasonable. etc., etc.

Respectfully, A. I. ROOT, Medina, O.

IMPLEMENTS, AND SUPPLIES FOR THE APIARY.

To avoid useless repetition, this price list contains only further explanations of the articles given alphabetically, in every No. GLEANINGS; *therefore if you wish a list of all the articles we keep for sale, you are to look there for it.*

BEE-KEEPER'S MEDLEY.

This is a fine large photograph, size 11x14, containing excellent, large photographs of both Langstroth and Quinby, besides good sized pictures of almost all the prominent bee-keepers and writers for the Bee Journals. The name of each is plainly printed on it and as it contains over 150 pictures, it makes a very pleasant study, especially after having followed these friends in their writings as we have many of them, for years. Think of having a good photo of Hetherington, Grimm, Doolittle, Bolin, Prof. Cook, Dadant, Dean, Davis, Gallup, Katie Grimm, Mrs. Harrison, Dr. Hamlin, Muth, Nellis, Nesbit, Wagner, Prof. Kirtland, Parsons, Carey, and enough more to nearly fill this page, all sent safely for only $1,00.

BEES.

Bees, full colony amply provided for winter, in our new two story, chaff hive (described Nov. and Dec. No's., '76), tested queen from imported mother. safe arrival guaranteed..(Lawn hive $1 more.)	$15 00
The same in a 1 story Simplicity hive	13 00
The same in old style L. hive with portico, etc.	12 00
The same with hybrid queen	10 00
Not provisioned for winter (hybrids in old hive)	7 00
Two frame nucleus with tested queen	5 50
" " The same with dollar queen	4 00

For an imported queen in any of the above, add $5,00

We think we can prepare bees for shipping safely any month in the year; when we fail in so doing, we will give due notice.

COMB FOUNDATION.

PURE BEES WAX.

Packed in neat wooden boxes—paper between every two sheets.

	per lb.	per pckg.
1 lb. 6x6, by mail	80c	80
3 " 12x18 or 8x16½, by mail	80c	$2 40
3 " " " by freight or exp.	58c	1 75
5 " " " " " "	55c	2 75
10 " " " " " "	55c	5 50
25 " " " " " "	53c	13 25
50 " " " " " "	52c	26 00
100 " " " " " "	50c	50 00
500 " " " " " "	48c	240 00
1000 " " " " " "	45c	450 00

White wax, 25c per lb. extra, if wanted, but we consider the yellow in every respect preferable; even for comb honey.

The fdn. is kept in stock, in sheets 12x18 inches, and 8x16½ inches [exact size needed for L. brood frames] packed in boxes of 3, 5, 10, 25, 50 and 100 lbs. each, and shipped only in these boxes at the above prices.

There are 5 cells to the inch, and one pound of wax makes from 4 to 9 square feet of surface. The thinnest will be used by the bees, but is not made into comb as quickly as the heavier, which has a greater depth of cell.

If 60 lbs. are wanted, send money for a 10 lb. box and a 50 lb. box, &c. The difference in price is only enough to cover the difference in cost of boxing, packing, &c.; five 10 lb. boxes, and packing, handling and nailing up five boxes, cost much more than one 50 lb. box, and packing, handling and nailing up one box.

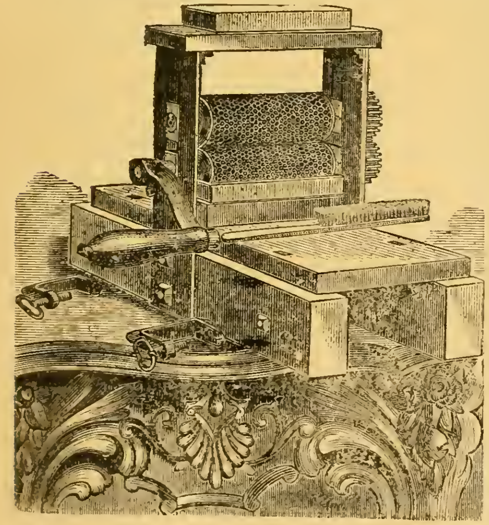
As these packages are all put up and kept in stock, there can be *no variation*, unless at an additional price.

Now, my friends, if you want all sorts of quantities, or want it cut all sorts of sizes, I will accommodate you with all the pleasure in the world, for TEN CTS. PER LB. EXTRA.

Wax will be worked up to order, and cut into sheets of any size desired, for 25c per lb. in quantities of 100 lbs. or more.

We will pay 30c per lb. cash for bright yellow wax, or sell it for 35c.

At above prices we can pay no express or freight charges either way.



FOUNDATION MACHINE WITH 5 INCH ROLLS.

Comb Foundation Machines.

Machines for making sheets I foot wide -	$100 00
Expressly for L. frame, 9 inches wide -	50 00
For making 5 inches for section boxes -	35 00
Double Boiler for above machines, -	$3.00, 3.50 and 4.00
Dipping plates per pair. - -	$1.00, 1.50 and 2.00

The above prices are for cells 4½ or 5 to the inch. If drone size is wanted, add $10, $5 and $3 respectively to above prices. The machines are all ready for use, and full instructions will be sent to each purchaser.

Address, A. I. ROOT, Medina, Ohio.

We have sold $35.00 machines for making comb foundation to

Rev. J. Van Eaton, York, N. Y.; Lewis Walker, Ventura, Cal.; G. M. Dale, Border Plains, Iowa; G. W. Gates, Bartlett, Tenn.; A. Salisbury, Camargo, Ills.; C. F. Lane, Koshkonong, Wis.; Wm. S. Hersperger, Jefferson, Md.; Wm. Riatt, Liff, by Dundee, Scotland; W. S. Boyd, Bethany, O.; W. R. Bishop, Sherwood, Wis.; Dr. J. B. Hawkes, Arlington Heights, Ills.; A. W. Foreman, M. D., White Hall, Ills.; Mrs. M. D. Minor, Port Jackson, N. Y.; C. M. Joslin, M. D., St. Charles, Mich.; Geo. B. Wallace, San Bernardino, Cal., C. L. Johnston, Danville, Pa.; J. F. Flory, Modesto, Cal.

A $38.00 (5 inch drone comb) machine to J. H. Nellis, Canajoharie, N. Y.

Nine inch $50.00 machines, to C. R. Carlin, Bayou Goula, La.; Jno. Hunter, 5 Eaton Rise, Ealing, England; J. B. Stevenson, San Bernardino, Cal.; J. E. Crane, Bridport, Vt.

Twelve inch $100.00 machines, to C.O. Perrine, Chicago, Ills.; D. A. Jones, Beeton, Ont., Canada; J. Madory, Los Angeles, Cal.; J. H. Nellis, Canajoharie, N. Y.

HOW TO FASTEN SHEETS OF FDN. IN THE BROOD FRAMES

The melted wax plan.

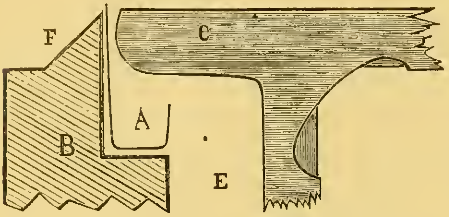
Set a common small lamp in a tall box with one open side, having coarse wire cloth nailed over the top. Place on the wire cloth a cup containing wax. Keep the wax just melted, by turning the lamp wick up or down. Now, with a pencil brush you can put the melted wax neatly just where you want it. Fit a board so that it will slip into your frame just half way, and lay your sheet of fdn. on this, with its upper edge close against the top bar; brush the wax along the joint, slip out the board and hang the frame in a hive. After a little practice you will do them quite rapidly, and think it is just fun. It is said that the fdn., to prevent sagging, should go in the frame in such a way that the walls of the cells run up and down, instead of diagonally. Our sheets are all made for the L. frames in that way.

The plan we prefer.

If wax is rubbed *hard* against a piece of dry wood, at ordinary temperatures, it will adhere almost as well as if put on in a melted state. Therefore, all we have to do to fasten it in the frames, is to lay it in place, and press the edge against the comb guide with the fingers, until it sticks moderately. Now take a knife or screwdriver, and rub it down hard. To prevent the wax from sticking to the tool, dip it in either starch or honey; we use the latter because it is handier. One corner of the tool should go clear down to the wood, at the last stroke to make a "sure thing" of it. The fdn. should reach within ¼ inch of the end bars, and within ¾, as a general rule, of the bottom bar. This space is needed to allow the sheets to stretch as it is being worked out, which it always does more or less. Some lots of wax will stretch scarcely perceptibly, while others will to the extent we have mentioned; and as it is desirable to have the sheet hang clear of the bottom bar when the cells are drawn out full length, we think best to give the amount of space below we have mentioned. The reason is, that the combs will bulge if there is any stretching after they have touched the bottom bar. To put the sheets in rapidly, you will need a board cut so as to just fit inside the frame, and reach up as far as the comb guide. Lay the sheet on this, close up to the top bar, and stroke it down to the comb guide, as we have directed. If your frames are made without a comb guide, you can fasten the sheet to the top bar in the same way, and then give it a quarter turn, so that it will hang straight down. As fast as the frames are filled, they should be hung in a hive, to be secure from injury. If you do not make the above plan work to suit you, you can fasten the sheets by tacking a strip of wood about ⅛ by ⅜ into the top bar, while the upper edge of the sheet is between them; this strip should be put on in such a way that the fdn. hangs straight down under the center of the top bar. For putting fdn. into the section frames or into boxes, make a saw cut nearly through the stuff of which the top is made, where you wish the sheet to hang. Before this piece is fastened in place, bend the wood backward in such a way as to open the saw cut, slip in the edge of the sheet, close up the cut, and it is secure.

CORNERS, METAL, FOR FRAME MAKING.

Perhaps the readiest way of understanding all about these, will be to order a sample frame, which we send by mail with a bit of rabbet and sample transferring clasp, for 15c. For the convenience of those who do not get the idea at once, we submit the following diagram: Also see Engraving on front cover.



METAL CORNER, AND ITS POSITION IN THE HIVE.

The engraving is full size. The ⅞ board B, is supposed to be the end of the hive. A is a section of the metal rabbet, and C is the corner, raised a little from its place as it rests on the rabbet. The space E between the frame and the end of the hive, should be about ⅜ of an inch, as explained below. F shows the bevel and shoulder, shown on the front cover and also under section boxes; this is to prevent wind or rain from getting through, when the hives or covers are piled up two or more stories high.

It will be observed that the frame is supported entirely on knife edges crossing each other at right angles, making it impossible for the bees to wax the frame fast, and almost impossible for you to pinch a bee in putting the frame down, even if you take no pains at all, to get them out of the way. We prefer to have the tin rabbet reach up above the end of the corner as at A, because the bees are so much less disposed to try to propolize the bright tin; also when replacing the frames, the corner arms glide smoothly into place as soon as they strike the rabbet. The rabbet may be used without the corners, or the corners may be used without the rabbet, but neither of them alone give us a frame so perfectly movable; and as wood is always giving more or less, they can not hang perfectly true. Neither can a frame be slid on the rabbets up to its place as quietly as when all the bearings are of metal.

HOW TO MAKE THE FRAMES.

Our frames were first made of strips of straight grained pine, only ⅛ of an inch in thickness, and it is surprising to see how well such combs have stood. On one occasion a number of these heavily filled with honey fell from the top of a barrel, yet not a corner was injured, and not a comb broken; these were Gallup frames, however, only 11¼x11¼. For the Langstroth frames, we now make the top bar about 10-32, and all the rest of the frame 7-32. Adair, American, and Gallup frames are all made of 7-32 stuff throughout. The Quinby size may have a ⅜ top bar, but the bottom bars might all be not more than ⅛, were it not that the frames may be sometimes used for transferring, and that the weight of the combs would sag the bottom bar, which is a very bad feature, if we wish to work closely and avoid killing bees. The top bars would not require so much wood were it not that honey boxes are sometimes placed on them, and it is advisable to be on the safe side. When we depend entirely on the use of the extractor, we would prefer a space of half an inch between the ends of the frames; but for box honey, small bits of comb will be built in this space, more than will be the case if ⅜ only is allowed. It requires a *very* careful operator to work fast, and avoid pinching bees, when only ¼ or ⅜ inch is allowed.

The two following cuts may assist some in putting on the metal corners:

Fig. 1.

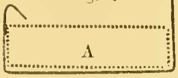


Fig. 2.

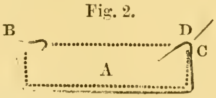


Figure 1, represents the points ready to be closed down and clinched into the wood, which is represented by the dotted lines A. A. Fig. 2, shows a point badly clinched at B, and one perfectly driven down at C. The line D, shows the direction in which the finishing blow of the hammer is to be given; in fact this blow should sink the metal slightly into the corner of the wood, drawing it up tight at the side C, and on no account letting it bulge out at B, nor allowing the point to curl up. A light, properly made hammer and a little practice will enable any one to make every point like C. Should you get one done badly, you can with a pair of plyers straighten it out and *make* it go right. The objection has frequently been made that this takes more time than to nail them; even if this were so, we are enabled to employ girls or other cheap help(we beg pardon ladies, but we never yet saw a community that did not furnish more or less females, who would be glad to get some such light work), who could not possibly nail good frames; then after they are done, their superior strength and lightness compared with nailed frames, fully make up the difference in price. We will send you a sample frame by mail, just as we would have it, for 15 cents, (American and Gallup size 12 cts.) including sample of rabbet and transferring clasp and you can test it by the side of your own frame in your hive. If the nailed ones do not seem awkward after using it, you, of course need not invest any further. See our price list, for further particulars.

The metal corners were patented June 18th' 1872, but we have "repented," and hereby give the invention freely to our readers. If any one can make them cheaper than we do, we will try to rejoice, because it will benefit the people.

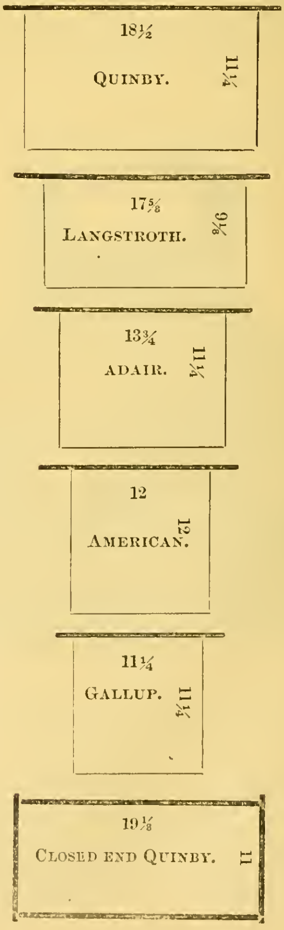
EXTRACTORS.

One important point is that all machines, to work to the best advantage, should be so made that the frame may hang in them just as it hangs in the hive, if we except the L. and Q. frames, and all having a length under the top bar greater than 14 inches. It may be impossible for us to give all the reasons for this now, but we hope you will take our word for it when we say there are very good reasons for standing a frame on end in the Extractor when the length is much greater than the depth.

We have before explained that we have our castings made to fit two different sized cans, viz., 17 and 20 inches, and we will now further state that we make the cans also of two different heights. To work nicely, the frame needs about the same amount of room to hang in the Extractor, that it has in the hive; to do this there seems to be no other way than to make every Extractor to fit the hive it is intended for. Of course you can use them otherwise, but we are well satisfied that the cumbrous machines now in use, are many of them destined to be soon laid aside for the more modern kind.

DIAGRAM OF PRINCIPAL FRAMES IN USE.

Figures given are outside dimensions in inches. Suspended frames have ¾ inch supporting arms, or an equal prolongation of top bar.



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NOTICE.

We will send a complete report of the proceedings of the National Bee-Keeper's Association during their three days convention in the city of New York on the 16th, 17th and 18th of Oct. 1877. Price only 15 cents. Every *progressive* bee-keeper will send for a copy while it can be had. Address

A. J. KING & CO., 61 Hudson St.; N. Y.

The following table is for the convenience of those ordering machines, and is intended to enable any one to decide for himself exactly what he can use to the best advantage.

PRICE LIST OF EXTRACTORS.

[The figures in parentheses, just before the prices, give the exact *inside* width of the revolving frame of the Extractor, *in inches.*]

A honey knife is included with each machine; the price will be $1.00 less if no knife is wanted.

No. 1.—For the Gallup frame, or any frame 11½ inches wide and not more than 12½ deep..	(12)	$8 50
No. 2.—For the American frame, or any one 12 inches wide and not more than 12½ deep.	(12½)	8 75
No. 3.—For any frame 12½ inches wide and not more than 12½ deep........................	(13)	9 00
No. 4. For the Adair frame or any frame 13¾ wide and not more than 12½ deep.........	(14½)	9 00

The above are all in shallow cans, 17½ inches high, and are very convenient for placing at such a height as to allow of running the honey directly into the barrel or any other receptacle, and still not too high for any one to work conveniently. The following numbers can also be used in the same way, unless the operator is short in stature; in that case, a shallow box may be inverted to stand on, but is somewhat inconvenient.

No. 5. This is made expressly for the Langstroth frame, which is to be used standing on end: it will take any frame whose top bar does not exceed 20 inches, and depth 9½ inches	(10)	$9 00
No. 6. The same except that it will take a frame of 10½ inches in depth........................	(11)	9. 50
No. 7. This is made expressly for the Quinby *suspended* frame, and will take also the other kind when the end bars have a depth not greater than 11½ inches.....................	(12)	10 00
No. 8. This is for all Quinby frames. and all American frames having a depth greater than 12½ inches. and can be used for all the frames in our diagram, but is much more inconvenient than the smaller ones where they can be used..	(12½)	10 00
No. 9. This machine is like No. 8, except that it takes a frame ½ inch wider, and is suitable for American frames that are 12½ wide and more than 12½ inches deep.......................	(13)	10 00
No. 10. This is the largest machine that we keep in stock, and will take a frame as wide as the Adair, and as long as the Quinby..	(14½)	10 00

For frames having a top bar with an extreme length of more than 20 inches, we shall have to make an extra charge of $1.00, and we shall have to make the same extra charge for frames that exceed 14 inches the narrowest way. There are few frames of such extreme large size in use, yet we sold perhaps a dozen such last season. Also, we find a few who insist on an extractor that will hold 4 frames at once; unless the frames are very small, we cannot think such will be liked as well, yet we will furnish them when desired, at an expense of $1.50 extra. If you look into the matter, you will see that a very much larger and heavier revolving frame will be needed, and every ounce in weight added to this, hinders rapid work.

Any of the above will be made with the wire cloth in a slanting position, for $1.00 extra, but we do not consider it of any especial advantage.

All of the last six—tall cans—have a support at the bottom for the frames to rest upon, and also to hold broken pieces of comb, should it be desired. The four first have nothing of this kind, for it is not needed, and would in reality only make them heavier, and be in the way; we advise purchasers always to take the smaller machines when they will take their frames. For instance, we would much prefer the No. 4, to the No. 10. even if offered at the same price, provided we had nothing but the Adair frame in our apiary.

Although our machines are now made much lighter and stronger, the gearing very much improved in looks as well as in strength. an improvement added whereby once oiling will last for years, a cover and strainer added, and the prices reduced, yet we will make the proposal that we will, to anyone, who has purchased one machine, give 10 per cent off on all he may sell after that; and this is all we can do in the way of furnishing them at wholesale. To dealers who advertise our Extractors. we will give 25 per cent off. This offer refers only to Extractors and honey knives.

It may be there are valuable features found in the high priced Extractors, not found in our own, but if such is the case, we are unable to appreciate them. We have added every improvement suggested that we thought would prove valuable, all things considered, and yet we find no great difficulty in furnishing them all crated and ready to ship, for the price named. Any one who has carefully studied the matter will see that to make a machine capable of receiving four combs instead of two, will require an increase in size and weight, without very materially aiding in rapidity of work, among the masses. Reversing the combs inside the can, making the inside frame three-cornered, running the machine by gearing or belts placed under the bottom. etc., etc.. have all had their advocates, but we think have generally been, after a time, discarded like the revolving cans. Our friends can rest assured, that we shall spare no pains in promptly adopting any real improvement that may come up. Please *do* tell the dimensions of the frame or frames you use, in ordering.

Any kind of a machine that revolves the honey after it is thrown out of the comb, or that revolves tin cans with the combs, is a most serious blunder, as you will see by trying both kinds.

INSTRUCTIONS FOR USING AN EXTRACTOR.

Many of our new friends have asked for directions for using these machines, but really they are so simple, that it seems little advice need be required. They are all ready for use when received, and most that is required is to screw them fast to some box or bench just high enough to allow the gate to run the honey into the bung-hole of a barrel. Do not undertake to work unless the bees are gathering honey, or you will be very likely to have trouble. The best time is when they are busy in the fields, and if the yield is good, you will hardly need any smoke. Carefully remove a frame from the hive, and then with a series of sudden jerks shake the bees in front of the hive or on top of the frames, as you may find most convenient. When you have shaken off as many as you can, take a bunch of asparagus tops, and gently brush off every bee in front of the hive. Now with the honey knife carefully cut the cappings from all capped cells: to do this quickly you will slide the knife under the caps in such a way as to have them come off in one entire sheet. In regard to straining the honey, we know of no way that answers so well, all things considered, as to hang the little bag sent with the machine, in the bung of the barrel; this keeps it all close and tight from flies and dust, and when you stop work for a little while, it is all safe, without the necessity of covering anything up. Two such bags are really needed, so that one can be kept clean and ready to take the place of the other when it becomes filled with impurities. As the sediment always settles to the bottom of the bag. the sides work well as a strainer for a long time. Cloth strains honey more perfectly than the finest wire cloth can. When the comb is uncapped it is to be placed in the Extractor; although you can extract one comb at a time if you choose, it is much better to have two, as they then balance each other, and the friction is less on the bearings, though our machines will stand the strain of the heaviest combs, one at a time. if need be. Turn just fast enough (and no faster) to throw out the honey, and there will be no danger of throwing out the brood; you will soon learn this by practice. Combs so full of brood that there is but little room for honey had better be left in the hive; there is little to be gained by working very close, and should the honey season suddenly close, there is danger of the bees starving, as we have known them to do, even in July.

On this account I would extract from the frames in the upper story only, after the bees get once well into them.

If your hives are kept close to the ground, and no weeds allowed to grow around the entrances, there is very little danger of losing queens while extracting, yet it is a very good plan to keep them carefully in mind, and if you should not see them, we think it a little safer to shake the combs that contain much brood, so that the bees fall directly into the hive. Losing queens while extracting is rather expensive business.

After the honey is taken from one side of the comb it is of course, to be turned, and the honey taken from the other side. When the combs are very heavy and the honey very thick, it may be best to throw it out only partially, the first time, and then reverse, to avoid crushing the comb into the wire cloth by the great centrifugal force resulting from such a weight moving at a rapid speed.

FOOT-POWER BUZZ-SAWS.

These machines are very handy in the apiary indeed, and as we warrant them to cut common inch pine boards at the rate of 8 feet per minute, line measure, and other thicknesses in proportion, they will answer to make frames, hives, section boxes, and almost every thing wanted about the apiary. The table can be raised and lowered for cutting different depths. for rabbeting. grooving, joining and other work. Price with two 6 inch saws, all needed gauges, etc., $35.00. The buzz saws, will reach through 2⅛ inches.

These answer very well, for making hives for your own use, but if you think of making them for sale, you will need power of some kind. If the machine is all in excellent trim, *saws sharp*, and every thing nicely oiled, the labor is not very fatiguing, for sawing inch lumber, but if you let the saw get just a little dull, or your lumber is hard, or if you attempt to cut very much 2 inch stuff, you may wish pretty "severely," you had a little engine. Although we have steam power, we find the foot power saw so handy for odd jobs, that we could hardly get along without it. We furnish with them, at the price, two books on saw filing and the care of saws.

HIVES.

SIMPLICITY BEE-HIVE.

One body and 1 cover in the flat, as sample to work from—one sample frame and sheet of duck included 1 00

One story hive for extractor (body 50c—2 covers 60c—nailing and painting 20c—quilt 25c—10 frames 60c—crating 10c).................................. 2 25

One story hive for comb honey is precisely the same as the above, substituting 2 frames of sections for 4 metal cornered frames......................... 2 25

The above 16 sections will be fitted with fdn., and starters ready for the bees, for 15c. and the tin separators added for 10c, making whole complete....... 2 50

The above two hives contain everything used in a 2 story hive. We simply use another body filled with frames or sections, for a 2 story hive.

For a 2 story hive for the extractor, add (to 1 story 2 25) body 50c—nailing and painting 10c—10 frames 60c—crating 5c, making complete 2 story containing 20 frames.. 3 50

For a 2 story hive for comb honey add (to 1 story 2 25) body 50c—nailing and painting 10c—6 frames of sections 78c—1 metal cornered frame 6c—crating 6c, making complete 2 story containing 7 frames and 64 sections.. 3 75

If filled with fdn. starters 60c—if also filled with tin separators 40c, making $4 75, if two latter items are wanted.

An upper story filled with sections, fdn. starters and all ready to be set over any L. hive..............$2,75

To prepare the above hives for winter, put in place of the 2 outside frames, chaff cushions, price 20c each, and a thick one on top, 30c.

Iron frame to gauge size of above hives, and to hold them true when nailing, size 20¼x16 inside.... 50

CHAFF HIVE FOR OUT DOOR WINTERING. 10 frames below, and 14 frames or 80 section boxes above, well painted and finished complete ....(Lawn hive $1 more.)....... $5 00

If filled with fdn. starters and separators, $1.25 more.

Without frames chaff or paint, as sample to work from 2 50

These hives, if supplied with stores, will, we hope, need no attention whatever, from the time honey ceases until it comes again the next season.

Two frame nucleus hive, neatly painted....... 50

HIVES BY THE QUANTITY.

The demand for both Simplicity and Chaff hives in the flat, has been such as to warrant me in making arrangements to furnish them by the quantity, at very low prices. Now it is with these as with the fdn., we can only do it by having them made up in quantities ahead, all boxed or crated, ready to ship. To avail yourself of these low rates, you *must* send the exact amount of money specified, and order them in the quantity specified. Printed instructions with illustrations, will be furnished for setting up each kind.

SIMPLICITY HIVES IN THE FLAT.

		Per hive.	Per pckg.
3	1-story hives, no insides or bottom	60c.	$1.80
5	„ „ „ „ „	58	2.90
10	„ „ „ „ „	55	5.50
25	„ „ „ „ „	53	13.25
50	„ „ „ „ „	52	26.00
100	„ „ „ „ „	50	50.00

Metal rabbets are included with all the above, and hives are all made of seasoned pine lumber.

You can use your ordinary Langstroth frames in the above hives, or we can furnish you metal cornered frames, and a sheet of duck for covering the frames, for just as much more; that is, the frames (10 to each hive and duck) cost precisely the same that the hives do. Two of the above hives make a complete two story hive, the cover of one of them, then being used as a bottom board. If you wish comb honey instead of extracted, fill the upper story with sections instead of frames. The 56 1 lb. sections, with the 7 broad frames and separators, including fdn. starters, will cost *three* times as much as the 10 metal cornered frames. The sections and fdn. cost but little, but the broad frames to hold them are pretty expensive with the tin separators, However, as a set will last indefinitely, we have only to purchase the sections, after we once get started.

CHAFF HIVES IN THE FLAT.

A Chaff hive is always a two story hive, and can be used in no other way; as the walls are double, the expense will be *three* times that of a one story Simplicity. Furnishing the lower story will cost just the same as the Simplicity, but as the upper story is wider, it will cost *one-half* more.

No nails are figured in the above price, but we can furnish them for 5c. per lb. A single story needs about ⅓ lb. to make it good and strong. A pair of gauge frames are needed to nail the Simplicities conveniently, price $1.00

I have thought best to give you this list thus early, that you may decide in time, about hives for another season.

If you have never seen a Chaff hive, perhaps you had better order your first one made up, ($2.50) for there are a great many pieces to them.

LABELS FOR HONEY,

In blue and gold, dark bronze and gold, or in white printed in two colors, furnished with your own address, and source from which the honey was gathered, already gummed, post paid by mail. No order rec'd for less than 250. At these low rates, the full number mentioned *must* be ordered without the change of one single letter of the type....................1000, $3,25; 500. $2,40; 250, $1,80.

Same as above except that source of honey, and name of bee-keeper is left blank, put up in packages of 100, assorted colors, for both comb and extracted honey.—Per package post paid, 25c.

LARVÆ FOR QUEEN REARING.

Many failures are reported with this, just because it is ordered from too great distances, or at an unseasonable time of the year. It should be borne in mind, that if it is out of the hive more than 48 hours, or if exposed to a temperature lower than 50°, the larvæ will be pretty sure to be dead. If the bees remove it from the cells, you may be sure it was either chilled or starved. Send to some one near you who has an imported queen, do not have the larvæ out of the hive more than two days, and you will be pretty sure to get good nice queens. As soon as received, you are to insert it in the center of a comb in the middle of the cluster of a queenless colony, and if it is all right, you will see them starting queen cells around it at once. Of course there must be no other eggs or unsealed brood in the hive, but it will be a very good idea to have some sealed brood.

MICROSCOPES.

These are real compound microscopes, and quite a different thing from the double and single magnifying glasses so often called by that name. The one we offer at $3., is a very neat instrument carefully packed in a mahogany box, with implements for the work of taking regular lessons in the insect world. You will find with it, that a single bee will make a study for a long time. Sent by mail for $3.15, and if you are not pleased with it, you can return it at our expense, and the money will be refunded.

PRICE LIST OF QUEENS.

Imported queens will be $6.00, if I select the best to fill your order, or $5.00, if I select the poorest. What I mean by best, is those which are largest and lightest in color, that produce the largest and yellowest bees, and are the most prolific layers. It takes a long time to test a queeen for honey gathering, and therefore it would be nothing strange, if those sent out at the lesser price, are really most valuable.

Tested queens reared from Imported mothers having all the above good qualities, $3.; with part of the above good qualities, $2.50, and the poorest, that I feel sure are not hybrids, $1.50. Now I am going to try to have the above satisfactory, and if they are not, you are to send them back, inside of 40 days and get your money or another queen, as you choose.

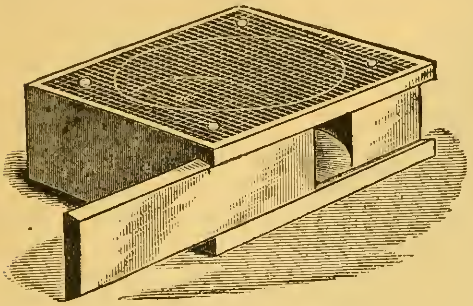
Young queens just commencing to lay, will be sold for $1 00 if you come and get them; if you want them sent by mail, send us 10c, for cage and postage.

Queens that have been tested and "found wanting," will be sold for 50c. I also reserve the privilege of sending out any kind of a queen that I do not like, as a 50c. queen. I have made the above conditions that I may be enabled to "pick out" queens to order, without doing any of you an injustice. The dollar queens, are always taken just as they come. If any of you can furnish them cheaper, I will rejoice with the rest.

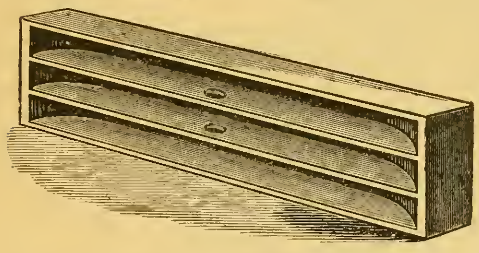
I do not think dollar queens can be furnished sooner than July 1st. but if our friends in the south conclude to "help us out" in the matter, I will let you know through Gleanings.

QUEEN CAGES AND BEE-FEEDERS.

There are two inventions I have made this year, that I am especially proud of; the Candy Queen Cage, and the Simplicity Feeder. They answer the purpose so completely, and are so clean and neat, that I should not have considered the price very high, at 25c, but when I discovered that we could make them so as to be sold for *only five cents*, I——I——well, as nearly as I can remember, I think I must have looked happy. Every time we fill an order for them, I say to myself, "Won't that 'fellow' be tickled, when he sees them and thinks of the insignificant price." I *do* like to see *nice* work at low prices, but I always feel "awfully miserable" when I am charged, or am obliged to charge anybody else, high prices for work that is not "nice." Now I will show you the cage and feeder, and try to stop "gossiping."



OUR 5 CENT CANDY QUEEN CAGE.



OUR 5 CENT SIMPLICITY BEE-FEEDER.

No directions are needed for using the queen cage, and almost none for the feeders. Fill it with honey, syrup, sweetened water, or even sugar with water poured on it, and then set it in one side of the hive, on the frames, in the portico, in front of the hive, or in the open air anywhere, and the feed will all be taken without a single bee getting drowned. Since the above cut was made, we have made the feeders longer and narrower, having two grooves instead of 3. They hold, just about 1 pint, and are sent safely by mail for 10c. postage included.

STEAM ENGINES FOR HIVE-MAKING.

2 Horse Power Engine and Boiler,............	$150 00
3 to 4 Horse ,, ,, ...	250 00

These Engines are tested at 300 lbs. pressure, the different parts are made interchangeable, the work and material is guaranteed first class, and it is claimed that it is practically impossible to explode the boiler.

They are mounted on wheels, rendering it convenient for moving, and are complete in all parts, except the smoke stack, which should be a 6 or 8 inch stove pipe.

I have taken pains to look this matter up in regard to these small engines, and those we offer are I think, fully equal to any thing made for anything like the price. They are furnished at the above prices, at the factory in Corning N. Y. Although engines of I horse power are offered for sale, we think it will be much better to purchase one of not less than two horse power as above.

SPRING BALANCE,

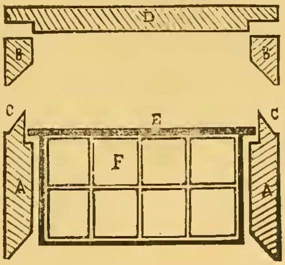
Is shown at No. 15, on the cover, a nice article.......$8 00

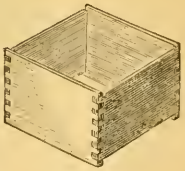
These scales are made weather proof, and when arranged to suspend a moderate sized colony, may be left out all summer. As the figures on the dial are large and plain, we can see at a distance the average yield of honey per stock, each day or *hour* even. When weighing stocks for winter, they shorten the work very materially.

LAMP NURSERY.

This is simply a hive made of tin, with double walls; the space between the two walls which may be from ½ to 1 inch, is filled with water, and this water is kept at an even temperature of about 100°, by a lamp under the hive. The lamp is to be enclosed in a box to avoid drafts, and the whole should be in a close room, to save the expense of oil. The tin hive is to be placed a foot or more above the top of the lamp chimney. When the oil is purchased by the barrel, the expense is but little more than one cent per day. Get your queen cells on the plan given in A B C, and when capped over, they may be taken away from the bees entirely, and the frame containing them hung in the nursery. If you have followed the instructions given, the queens will all hatch out long before the workers, and all you have to do is to place them in any queenless hive or nucleus, as soon as they are hatched. You need not open the hive to introduce them, but you can just let them crawl in at the entrance, and the loss will certainly be no greater than that of inserting queen cells. You can if you choose, have several combs containing queen cells in the nursery at the same time, and when we can have queens hatching every day for weeks, we really enjoy the fun. It is easy keeping a supply of cells on hand, when we once get started, and we do not examine our nursery oftener than about five times a day. It will be observed that with the lamp nursery, we have no cutting, nor mutilating of our nice combs, as we do where we cut out queen cells. When the queens are old enough to begin to gnaw out, they can easily be heard by holding the comb of cells, next to the ear, and as they are ready to introduce as soon as they begin to cut out the caps, they may be safely taken out with a sharp pen knife, and put at once where wanted. They sometimes kill each other when crawling about in the nursery, but not often unless there are bees present. We have found a half dozen or more crawling about peaceably together on first going out in the morning, but they would be certain to kill each other, if left until a few hours older. Price of nursery with lamp large enough to burn several days. $5,00.

SECTION HONEY BOXES.





SECTION BOX.

SECTION BOXES AND THEIR POSITON IN THE HIVE.

The above cut and the cuts on the cover, will make every thing plain, almost without explanation. As we send a complete section box with nice strip of fdn., and printed directions for fastening it in the frames, by mail for 5c., we will not attempt any description here. The cut on the left, shows one of the broad frames containing 8 sections, and A, A, are the ends of the hive, B, B, are the end strips that are nailed under the cover of the hive, and D, is the cover itself, before being nailed on to B. B. C, C, shows the shoulders that hold the cover on the upper stories, while the bevels hold it securely in place, and exclude rain and wind.

SECTION BOXES IN THE FLAT, PER 1,000.

Any dimensions not exceeding 2x5x5................ 10 00

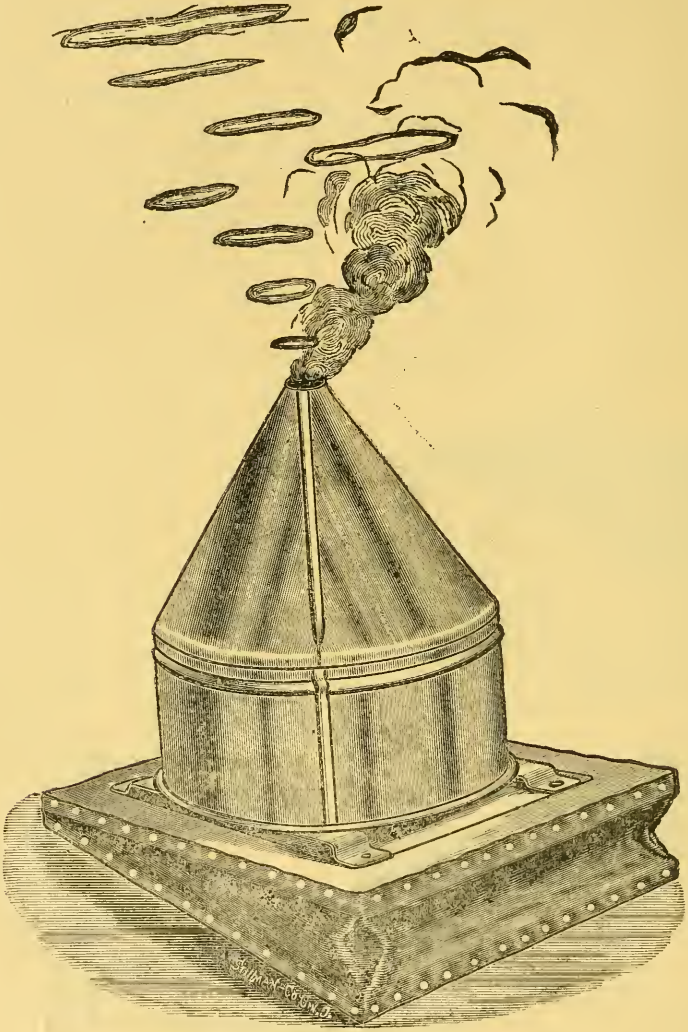
The above is 50 cubic inches; for larger sizes add 10c per 1,000 for each additional cubic inch or fraction of an inch, outside measure. Extra prices for less than 500.

Just right to fit in L. frames, 2x4¼x4¼.........	9 50
Sample by mail with fdn..........................	5

If the grooving for holding the fdn. is omitted, 25c less per 1,000. Sections weigh from 7 to 10 lbs per 100.

10	L. frame made 2 inches broad to hold 8 sections	5
25	The same with 8 sections.........................	13
25	The same furnished with fdn. starters all ready for the bees..................................	20

Adding tin separators to either of the above will increase the price 5c, and the postage 6c.



THE SMOKER I PREFER.

THE SIMPLICITY SMOKER.

It don't tip over, never "goes out," makes nice rings of smoke to please the children, and there are "lots" of other nice things about it that I can not think of now. When you get one, you will know all about them. It is, in fact. such hard work to make it go out at all, that we have been obliged to add a damper to it since the engraving was made. You can burn anything in it, chips, "patent right hives" that you do not want, stove wood, corn cobs, &c., &c. The nicest material I have ever used, is peat, but ours is all gone, and I don't know where to get any more. Very dry corn cobs, make a splendid smoke and last a long while, but it is some trouble to light them the first time. After you have been using them, if you extinguish them by means of the damper, you can light the charred fragments next time, with a match. You can chop the cobs in pieces with a hatchet, or let the children do it, and then keep them with some matches in a box where they will always be dry. Your smoker should also be kept in-doors out of the rain. but if you are sometimes careless, as I am, and get some part of it broken or injured, we will sell you the different parts at the following prices: The postage is given in the left hand column.

25	Smoker complete	75
	A larger size will be furnished if wanted, for 25c more.	
15	Bellows complete	40
10	Tin case for fuel	35
3	Leather for Bellows	15
3	Pair of steel springs	10
5	Top of tin case	10

After you have bought one smoker, if you want another for your neighbor, we will give you 10 per cent off. If you will buy a whole dozen, and take them all at one time, you may have them for 50c each, and that is the very best we can do in the way of wholesaling.

P. S.—If you wish to see the revolving rings, get something that will make a perfect cloud of smoke, peat is best, and tap briskly on the bottom board. When you can get the knack of it, you can have the air full of them, all spinning away like——There! I almost forgot one more idea. Whenever the children get stubborn and really need punishing——on a second thought, I think I won't tell it after all.

thing harder might injure the rolls—and the rolls are kept well covered with the starch, as well as the sheet of wax, it will soon come out nicely. As soon as the edge gets through, it is to be picked up with the fingers, then held between two pieces of wood, and drawn out as fast as the rolls are turned. Two men will, after a little practice, with a 12 inch machine, roll it about as fast as it can be dipped. The sheets roll with less trouble from sticking, if allowed to stand a couple of days after being dipped, as the wax hardens slightly by being exposed to the air. This explains why white bleached wax is harder than the common yellow. The bees work the bleached wax so much slower on this account, I would not advise its use, even for box honey.

TRIMMING, SQUARING, AND CUTTING THE SHEETS.

The best thing we know of for this purpose, is a pair of tinners squaring shears. They are provided with gauges of different kinds and offer every facility for cutting a great number of pieces exactly of a size. They are operated by foot, thus leaving the hands at liberty. They cost about $35.00; the blades must be kept wet with the starch solution, to prevent sticking. A common pair of shears may be used in the same way, if the blades are dipped in the starch at intervals.

COMB HONEY. I would have comb honey stored in section frames, instead of boxes, because they are clean and nice to handle, can be retailed without the troublesome daubing, and above all, because the public will pay a much higher price for honey in that shape. I would for the same reason have the sections small. I would also have them made to fit inside of your regular hive frame, or rather in a broad frame, made of exactly the same dimensions. This simplifies the work greatly, because we can then hang a frame of sections in any hive, and in either the upper or lower story, as we may have occasion. This is a great convenience for it enables us to get nice comb honey of any colony, however weak, by simply hanging a frame of these sections, on one or both sides of the brood combs. If the bees have been kept in a small space, so that every comb is occupied with brood and pollen at the approach of the honey season, they will start in the sections almost at once, if they are given them just as soon as they begin to be crowded for room. Give them a single frame at first, and when they are well at work in this, give them another. Do not put on an upper story, until they are ready to go into it in large numbers. Do not let the bees by any means, get to

CLUSTERING ON THE OUTSIDE OF THE HIVES.

If you have been "up and dressed, and on hand," they will seldom commence this when honey is to be had in the fields; but if a strong colony gets to hanging out preparatory to swarming, you must get them into the boxes at all hazards. The first thing is to be sure they have room near the brood; the next, that the hive is properly shaded; and we have found it a good thing, many times, to drive them in with smoke. After they once get started at work, you will seldom have trouble with them, but a little neglect, may be the means of losing a fine crop of honey. Sections partly filled out by other colonies, will almost invariably set them at work. If you can do no better, divide them; but I should try everything else, before doing this, if my object were comb honey.

ITALIAN BEES. At present, the Italians are by far the most profitable bees we have, and even the hybrids have shown themselves so far ahead of the common bee, that I think we may safely consider all discussions in the matter at an end. Many times, we find colonies of hybrids that go ahead of the pure stock, but as a general thing, taking one season with another, the pure Italians, where they have not been enfeebled by choosing the light colored bees to breed from, are ahead of any admixture. There has been a great tendency, with bees as well as other stock, to pay more attention to looks, than to real intrinsic worth, such as honey gathering, prolificness of the queens, hardiness, etc; and I think this may have had much to do with the severe losses we have sustained in winters past. Since the recent large importations of queens direct from Italy, and a disposition to be satisfied with bees that are not all golden yellow, we have certainly met with much better success in wintering, as well as honey gathering.

Even if it were true that hybrids produce as much honey as pure Italians, each beekeeper would want at least one queen of absolute and known purity; for, although a first cross might do very well, unless we had this one pure queen to furnish us queen cells, we would soon have bees of all possible grades, from the faintest trace of Italian blood, all the way up. The objection to this course is that these blacks, with about one band to show trace of Italian blood, are the wickedest bees to sting, that can well be imagined, being very much more vindictive than either race in its purity; they also have a very disagreeable way of tumbling off the combs in a perfectly demoralized state, whenever the hive is opened, unless it is in the height of the honey season, and making a general uproar when they are compelled by smoke to be "decent." In attempting to introduce some queens to hives of this class a few days ago, they uncapped and gorged themselves with nearly all the honey in the hive, every time I looked them over. The consequence was, that after they had been looked over several times for their queen, queen cells, etc., a large part of their winter stores were consumed uselessly, for the honey they had gorged themselves with, started them to building comb at a season when it was not wanted, and so stirred them up, that they were boiling out at the entrance at a time when "honest bees" should have been snugly tucked away in their winter doze.

Our pure Italian stocks could have been opened, and their queens removed, scarcely disturbing the cluster, and as a general thing, without the use of any smoke at all, by one who is fully conversant with the habits of bees. Neither will this class of hybrids repel the moth, as do the half bloods, and the pure race. For these reasons and several others, I would rear all queens from one of known purity. If we do this, we may have, almost if not quite, the full benefit of the Italians as honey gatherers, even if there are black bees all about us.

Suppose you get an imported queen, and rear queens from her eggs, for all your other hives, and all increase you may have during the first season. None of your worker bees, the next season, will be less than half bloods, and all your drones will be full bloods. See DRONE and QUEEN. The queens that are reared now, will, many of them, prove pure, and by persistence in this course year after year, Italians will soon be the rule instead of the exception. This is no theory, but has been the result practically, in hundreds of apiaries.

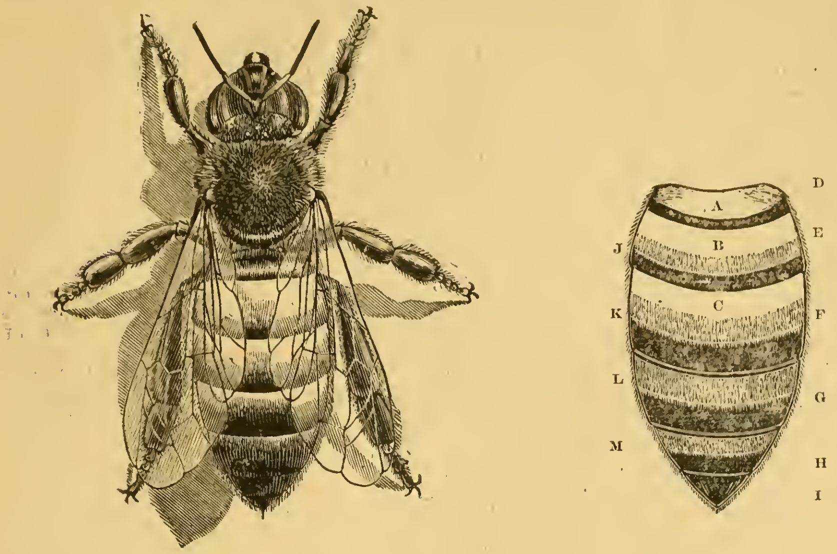
Now this is all very clear plain sailing, but we must take into consideration that our drones are all the time meeting the queens from our neighbor's hives, and from the forests. This will have no other effect the first season, than to produce hybrid workers, without changing the drone progeny, but when these hybrid stocks begin to send out swarms, these swarms will furnish hybrid drones, and soon comes all sorts of mixtures. Well, we shall have to let them mix I suppose, and I do not know that it does any particular harm, for any admixture of Italian blood, improves the common stock.

But if we are going to buy or sell bees, we want to know what to charge for them, and also what to sell them for; we also wish to know which queens to remove, when we are Italianizing our apiary throughout; hence it becomes very important to know which are Italians and which are not. To be candid, I do not believe it is possible *always*, to tell; but I think we can come near enough for all practical purposes, as they say in making astronomical computations.

The queens, and drones from queens obtained direct from Italy, vary greatly in their markings, but the worker bee has one peculiarity that I have never found wanting; this is the three yellow bands we have all heard so much about. Unfortunately there has been a great amount of controversy about these yellow bands and to help restore harmony, I have been to some expense for engravings. As is often the case, I failed to get our city friends to understand just what I wanted the "big bee" for, so we have made a sketch of the body of the bee, ourselves as shown on next page.

Every worker bee, whether common or Italian, has a body composed of six scales or segments, one sliding into the other telescopic fashion. When the bee is full of honey, these segments slide out, and the body is elongated considerably beyond the tips of the wings, which ordinarily, are about the length of the body. Sometimes we see bees swollen with dysentery, so much that the rings are extended to their fullest extent, and in that condition they sometimes would be called queens, by an inexperienced person.

On the contrary, in the fall of the year when the bee is preparing for his winter nap, his body is so drawn up that he scarcely seems like the same insect. The engraving on the right, shows the body of the bee detached from the shoulders, that we may get a full view of the bands or markings that distinguish the Italians from the common bees. Now I wish you to observe particularly, that all honey bees, common as well as Italian, have four bands of bright colored down, J K L M, one on each of the four middle rings of the body, but none on the first, and none on the last. These bands of down are very bright on young bees, but may be so worn off as to be almost or entirely wanting, on an old bee, especially on those that have been in the habit of robbing



HOW TO TELL HYBRIDS FROM PURE ITALIANS.

very much. This is the explanation of the glossy blackness of robbers often seen dodging about the hives. Perhaps squeezing through small crevices, has thus worn off the down, or it may be that pushing through dense masses of bees has something to do with it, for we often see such shiny black bees in great numbers, in stocks that have been nearly suffocated by being confined to their hives, in shipping, or at other times.

These bands of down differ in shades of color, many times, and this is the case with the common bee, as well as with the Italian.

Under the microscope, the bands are simply fine soft hair, or fur perhaps, and it is principally what gives the light colored Italians their handsome appearance. You have, perhaps, all noticed the progeny of some particular queen when they first came out to play, and pronounced them the handsomest bees you ever saw; but a few months after, they would be no better looking than the rest of your bees. This is simply because they had worn off their handsome plumage, in the "stern realities" of hard work in the fields. Occasionally, you will find a queen whose bees have bands nearly white instead of yellow, and this is what has led to the so called Albino bees. When the plumage is gone, they are just like other Italians. Now, these bands of down, have nothing to do with the yellow bands that are characteristic of the Italians, for after this has worn off, the yellow bands, are much plainer than before. A, B, C, are the yellow bands, of which we have heard so much, and they are neither down, plumage, nor anything of that sort, as you will see by taking a careful look at an Italian on the window. The scale or horny substance of which the body is composed, is yellow, and almost transparent, not black and opaque, as are the rings of the common bee, or the same insect, lower down.

The first yellow band A, is right down next the waist; now look carefully. It is very plain, when you once know what to look for, and no child need ever be mistaken about it.

At the lower edge, is the first black band; this, often, is only a thin sharp streak of black.

The second, B, is the plainest of all the yellow bands, and can usually be seen in the very poorest hybrids. The first band of down, is seen where the black and yellow join, but it is so faint, you will hardly notice it in some specimens.

We have at the lower edge of the scale as before, a narrow line of black; when the down wears off, this shows nearly as broad as the yellow band.

Now we come onto disputed ground, for the third band C, is the one about which there is so much controversy. Some contend that a pure Italian should show it whether he is filled with honey or not; and others, among whom was our friend Quinby, that a part of the bees would show it only when filled with honey. Now there are, without doubt, hives of bees that show this third band at all times, but it is pretty certain, that the greater part of the bees of Italy, do not. The conclusion, then, is that the bees of Italy, are not pure. Now I think we should be careful about going to extremes in these matters, for it is honey, and not yellow bands, that is the vital point. The bees from Italy, are better honey gatherers etc., than ours are, and if we import from Italy, I think we should be satisfied, to get such as they have, especially so far as the markings are concerned. My advice is just this; if you are undecided in regard to a queen, get some of the bees that you are sure were hatched in her hive, and feed them all the honey they can take; now put them on a window, and if the band C, is not plainly visible, call them *hybrids*. I advise you to put them on the window, because you may mistake the band of down which is often very plain and yellow, for the permanent yellow band, C. Now, the bees from Italy, are not all alike, and the yellow bands have different shadings, as well as the bands of down; but they are always found there, so far as my experience goes, if examined with sufficient care.

We have heard about bees having a fourth yellow band; this would have to come on L G; but, although we have made a great many examinations, we have never been able to find more than very bright yellow down, and no trace of the yellow in the horny scale, as we find it in A B and C.

When we come to hybrids, we shall find a greater diversity, for while the bees from one queen are all pretty uniformly marked with two bands, another's will be of all sorts; some beautifully marked Italians, some pure black, others one or two banded. Some will sting with great venom, while others with only one or two bands, will be as peaceable as your best Italians. Without a doubt, many queens have been sent out as pure, that produced only hybrids; but since my recent studies in the matter, I am pretty well satisfied that I have sold several queens as hybrids, that were really full bloods. A very slight admixture of black blood, will cause the band C, to disappear on some of the bees, but we should be very careful in such matters to be sure that the bees in question were really hatched in the hive; for bees of adjoining hives, often mix to a considerable extent. If you examine a colony of blacks and one of hybrids that stand side by side, you will find many Italians among the blacks, and many blacks among the Italians. Take young bees that you are sure have hatched in the hive, and you will be pretty safe, but you cannot readily distinguish the third band, until they are several days old.

POLLEN. You have all, doubtless, heard bees humming about Hollyhock blossoms, but perhaps most of you have passed on, thinking that it was nothing strange, for bees are always humming about flowers. Suppose we stop just a minute, and look into the matter a little. The bee, although on the wing, is almost motionless as he hovers about the dust in the centre of the flowers, and by careful watching, we may see that his tongue is extended to a considerable length. This tongue looks much like a delicate pencil brush as he sweeps it about among the grains of pollen, and as the pollen adheres to it and is from time to time put away somehow, we are led to infer that there must be something adhesive on it. I believe the bee when he starts out to gather pollen, does carry along a store of honey for this very purpose. Well we will suppose he has moistened his long flexible brush-like tongue with honey, has spread it out and brushed it among the pollen grains and then —I rather think I shall have to give you some pictures before I can well explain to you what happens next. Here they are:

Fig. 1

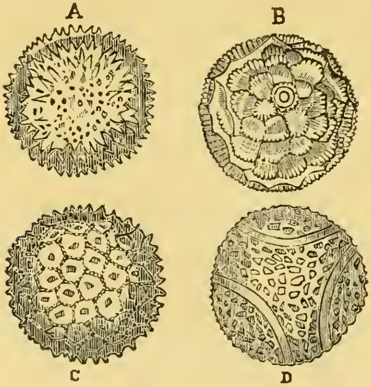


Fig. 3

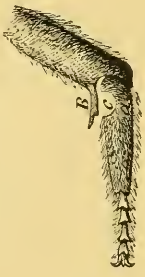
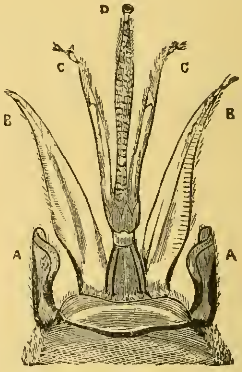


Fig. 2



HOW THE BEE GETS THE POLLEN FROM THE FLOWERS.

Fig. 1, is a collection of pollen grains highly magnified, and A, is exactly the kind the bee finds in the Hollyhock. Fig. 2, is the tongue of the bee, and Fig. 3, is one of his fore feet, just to show you what a funny machine he is provided with, for getting the pollen off his tongue. There is a little blade as it were, at B, that opens and shuts, and the bee, when his tongue is well loaded, just claps it into the grooved or fluted cavity C, then shuts down B, and gives his tongue a "wipe," so quickly that he leaves sleight of hand performers all far in the shade. I believe he generally wipes his tongue with both fore feet at once, and when he does this, his appearance viewed through a glass, is comical in the extreme. Suppose you were to take a feather duster, dip it in honey, and then roll it in currants. It would be a big job to pick these currants off, one at a time, but if you should put the handle of the duster in your mouth, you might with the thumb and forefinger of each hand strip them all off clean at one "lick," and then your duster would be ready for another "dip." This is just the way the bee does it, but he has rather the advantage, for his thumb and finger are fluted or grooved, in the way I have explained, that he may be able to sweep off his tongue "slick and clean" without hindrance. Now it is another "knack" he has, of getting it into his pollen baskets, after he gets it off his tongue, but as I am at the end of my page, I think we shall have to continue our story next year, as they say in romances. If I have in the least made you feel that the book of nature is more wonderful and more satisfying than any work of fiction, I shall be very glad indeed.

Heads of Grain,

From Different Fields.

HOW I CURED FOUL BROOD.

MY bees had foul brood last year, and I tried Hyposulphite of soda. This summer, I tried salicylic acid, and the same with borax, but all would not do. About the middle of June, when honey was plenty, I took all the comb out and put in empty frames, leaving them 24 hours; I then shook the bees into a hive that had been scalded with lye (left from making soap), and filled with new frames and fdn. The brood I put into a queenless stock till it was nearly all out, then melted the old combs and scalded all the frames, hives and honey boards, in the lye. They are now doing finely. The fdn., I found stretched, although it was pure wax, but I found a simple cure for that. When I put the fdn. in the frame with a soldering bolt and a piece of wax, I run a strip of wax about ¾ inch wide down the middle of the sheet on one side. After awhile, they will work it all into comb. JAMES MCKAY.

Madison, Wis., Sept. 22d, 1877.

CATNIP SEED, AGAIN.

I notice in Nov. No. of GLEANINGS, page 308, the statement of C. F. Muth, Cincinnati, O., and Stair & Kendel, Cleveland, O., in regard to catnip. I have never cultivated, nor seen any person cultivate catnip. Last year, I let all the seed stalks stand. This year, the great difficulty, with me, was to keep the catnip out of my garden beds. The place where I cleaned the seed, of which I sent you a sample, is covered with young stalks as thick as they can stand. I have some stalks that have blossomed from the early seed of this year. P. GRAHAM.

Johnstown, Pa., Nov. 5th, 1877.

All my hives are painted in light colors; while the paint is green, I have them held up and smoked with a lamp or candle, which clouds them very prettily. My handsomest are pearl color and brown. How would those colors clouded, do for your packing or shipping case? The honey would look white, thus contrasted. MARY H. MILLS.

Alexandria, Pa., Sept. 11th, 1877.

CROSS BEES.

I had some of the crossest bees this summer that were ever heard of. They would fight the top of a stove-pipe that runs up through a shed roof; there would be 50 or 100 bees at once, just whacking against that pipe, and very many fell into it and burned to death. They would dive into my smoke-pan, and burn up in that, and sting folks along the road. What the cause was I could not imagine, but at last I happened to think. I had been destroying drone brood, and when it was in a milky state I could not shake it out of the combs; the bees would eat it and it just made them crazy and ugly. Well, I always want to be sure about anything, so I left it off for a while and they became peaceable again. On again giving them access to the milky brood, the same result followed. I suppose you will laugh, but I am well satisfied that this and this only, was the cause of the fierceness of the bees. Have you ever known or heard of anything of the kind? D. GARDNER.

Carson City, Mich., Nov. 9th, 1877.

To be sure you are right friend D.; the milky food given the drones, will be more readily devoured by robbers, than honey even; and after it is gone, you will have just such a demoralized set of bees, as when they get a little taste of new honey during a scarcity. In cutting out queen cells, I have often had robbers get at the pieces of brood taken out to make room for the cells, and if these pieces are not kept out of the way, you will very likely get some pretty severe stings before you get through. I hardly know why bees get into such an insane frenzy, after having had a taste of new honey or unsealed larvæ, but I have seen them, at such times, sting almost every thing and everybody: even posts and stove-pipes, as you have mentioned. The remedy is to be neat and tidy about your apiary, and leave nothing in the shape of combs or honey lying about. Do not throw even so much as a discarded queen cell on the ground.

From 47 colonies in spring, I have taken 3,150 lbs. extracted, and 1,300 lbs. comb honey. Total, 4,450 lbs. Average for 47 hives, 94 lbs. I have increased to 90 colonies. This report may be divided, thus: Hives worked for extd. honey, 14, average 225 lbs; hives worked for comb honey and swarms, 31, average 41 lbs, and 13 swarms; divided into nuclei, 2. Have sold queens and bees for $23. and 3,200 lbs. honey, most of it near home. Sold comb honey at 20c, and extd., at 12½. The season for surplus begins here from the 20th of May to 1st of June, and ends July 5th to 10th. Poplar and white clover are the main sources, with a little sprinkling of basswood, which blooms here July, 1st. JONAS SCHOLL.

Lyon's Station, Fayette Co., Ind., Nov. 12th, '77.

I had 38 stocks, all black, last fall, had 15 this spring, and now have 35. Out of five queens from Nellis, I have one still, seemingly well bred. One flew in the air, two were killed after they had commenced laying, and one more was lost by showing her to every one that came along. I took about 1,700 lbs of honey, all extracted, of which about 150 lbs were from dandelions, 600 from clover, and 950 from basswood. Some did not gather enough after extracting for winter use, and had to be fed. I used to wish I had some of your feeders.

SAMUEL H. KERFOOT.

Minesing, Ontario, Can., Oct. 26th, 1877.

The bees bought of you last April, seem to be doing very well. They take to the foundation very kindly. Perhaps the following statistics from the Kansas Ag. Report may interest you and your readers.

Number of Hives	9.213	(in 1875.)
Honey	37.175 lbs.	"
Wax	2.666 "	"

The report for 1876 is not out yet. If a jar of candied honey is set in a vessel of cold water, put on a slow fire and the temperature kept at 212° F. till the honey is all dissolved, it will not candy again; so says the "Druggist's Circular." J. F. BARTON.

Chicago, Ills., Aug. 18th, 1877.

If the report given is correct, it is certainly very low, for honey. More than ¼ that amount is sold from Medina Co., alone, every year. The Druggist's Circular has been rather hasty in its conclusions. Some honey, after being thoroughly melted, will not candy again in a long time, but other samples will candy just as many times as you expose it to a low or freezing temperature, unless it is sealed up hot like fruit, as we have before explained.

MELTING CANDIED HONEY.

The Druggist's Circular is in error again, in directing that the honey be heated to the boiling point; such a heat will injure both the color and flavor almost invariably, and 150° will melt it just as well, although it may take a little longer.

CANDY MAKING.

I have many hives eating framed candy. I think it likely that the only thing I will have to complain about, will be, that, long ago, when you were thinking candy bricks you did not think a little larger, and give us frames of candy at once. It is rather a joke on one, to scorch a batch of syrup, and keep on boiling and stirring in vain hope that it will make candy. My "Golden C" sugar requires 1 pint of water to 6 or 7 lbs. of sugar, but I put in only 5 lbs, until it boils, and then stir in sugar until it is of the right consistency. I then get my wife to sift in the flour while I stir. As I have 75 or 100 lbs. at once in the wash-boiler, I draw the kitchen table up against the boiler in front of the stove, for understand we have full possession of the kitchen at this time, and ladle the thick syrup into the frames, as they lie on newspapers spread on the table. These papers will stick to the candy, if not greased, except you remove them before the candy is cold. In hopes of rain in this month, to cheer bee keepers and others, I remain yours R. WILKIN.

San Buenaventura. Cal Nov, 5th, 1877.

ENAMELED CLOTH FOR COVERING THE FRAMES.

I have tried enameled cloth instead of duck for a covering to frames, and find it far superior to duck. You must try it and report. Cut it full size of hive outside. It was discovered by Mr. W. J. Andrews, of Columbia, Tenn. He uses enameled duck, but I find the plain domestic enameled will do, and costs about 10c per hive. I believe plain brown domestic, coated with linseed oil and rosin, will be better. It should become dry before use. I intend to try it next season. S. C. DODGE.

Chattanooga, Tenn., Aug. 3d, 1877.

I have used the enameled cloth for several months, and it is a fact that the bees "let it alone" seemingly, better than any substance heretofore tried. Almost no propolis at all is found on it, and I can imagine them saying, as they look it over, "Well, this is about as smooth and tight as we could make it if we tried, so we think we will just let it be." The question now comes, how is it going to answer for winter? As it is impervious to water, I have some doubts; but with a good chaff cushion over it, it may not prove so disastrous after all. At any rate, we are giving them a test.

I have 27 colonies of bees; began the season with 5. Our fall honey here is so bitter that it cannot be used for any purpose. It is from a yellow flower, known as bitter weed, which made its appearance here about 1863, taking possession of all lands not under cultivation. Our milk, in early summer, cannot be used. DAN. NICHOLSON.

Terry, Miss., Oct. 23d, 1877.

I began last spring with 1 hive of so called, Italians. They are hybrids, I suppose, as they have but two bands. I now have five stocks and have taken 200 lbs. comb honey from the parent colony and its first swarm, which was a natural one. The others are artificial, and have yielded no surplus, but have a good stock for winter.

MRS. S. D. THURMOND.

Dry Grove, Miss., Oct. 31st, 1877.

You will have to put me in the list of "Blasted Hopes" this time. Following your directions (exactly as I did 3 weeks ago with success), after taking away the old queen, I put the cage with new one on top of the frames, under the duck. Twenty hours later, the queen and all her companions were dead in the cage. I cannot account for it, unless they were smothered. Two hours after putting her in, I took a peep at them to see what they were doing. The hive seemed much disturbed and they were clinging in a thick knot to the cage. This knotting and the warm day, I think will account for it. But what does GLEANINGS say? LAWRENCE JOHNSON.

Holly Springs, Miss., Aug. 26th, 1877.

I confess, I can hardly understand why a queen and bees should be found dead under such circumstances. When the bees were clinging tightly to the cage, I have always felt that they were safe if they had plenty of food, and if you used the candy cage, they were certainly all right in that respect. Since using flour in the candy, we have found that the bees use the candy much more freely, both in the slabs, and in the cages; and it may be that a certain quantity of pollen is needed as well as honey, to keep, even old bees, in perfect health.

The candy used now for the cages, contains 1-10 flour, and I believe not one loss has been reported since it has been used.

In July No. you say, "in selecting brood for queen rearing, be sure you have no drone larvæ, for the bees, by some strange perversion of instinct, will very often build queen cells over them, *resulting always in nothing but a dead drone.*" Now, I believe the idea of its "resulting always in nothing but a dead drone" is accepted by nearly all the leading apiarians, but, notwithstanding, it has been positively disproved by Add. Bair, an experienced apiarian of this place. He says that, from circumstances occasionaly brought to his notice, he had been led to the belief that drones did sometimes issue from queen cells, and a circumstance of very recent date verified the fact. He was raising a queen, as he supposed, from choice stock, and when the date passed for its appearance and it came not, suspicion crept upon him that its inmate was not a queen. He therefore resolved himself into a vigilance committee, with a determination to see what would come of it; and when the date came for a drone to issue, he was extracting basswood honey, which gave him quite a favorable opportunity to guard his would be queen. He looked to the cell every hour, and finally discovered a something, gnawing its way out. He took the card in his hands, assisted the inmate of the cell to make its exit, and lo! *a perfect drone.* He thinks this will account for the oft mysterious disappearance of a queen that has evidently issued, but cannot be found—instead of a queen it was a drone. D. B. BAKER.

Rollersville, O., July 16th, 1877.

This has been a very good honey season with most people, but I am a "bran new" hand, and have had poorer "luck." My bees would not work well in the upper story, and I have just found out that they stored too much honey below, not leaving the queen space enough.

T. W. LIPPINCOTT.

Pana, Ills., Sept. 18th, 1877.

Right here is where the beauty of the sections in frames comes in, friend L. Had you hung some of these in the lower story, they could not well have helped themselves, and after they were well started, you could have raised them above, bees and all. You must not let the bees cheat you in that way again, even if you are a new hand.

I wish, next year, to work my bees for increase, raising my queens in two frame nuclei, and when they commence laying, building them up with brood and bees from the old colonies. If I have an extractor, do you think I can keep them from swarming without putting on an upper story?

Only by taking away brood also, if the colonies are strong.

My nuclei shall start in full sized Simplicities, as you advise in the A B C. Will it take as much time to work them this way, as to raise comb honey, letting some of them swarm naturally, and raising queens to Italianize them?

This question, like many others, is given in such a way that it is hardly possible to give an intelligible answer. I think it would, very likely, take more labor to raise queens, than to raise comb honey; but we can only get the honey when there is a plentiful yield, whereas we can raise queens at any time when bees can fly, even during a severe drouth. Of course we should have to feed, but I think the queens would more than pay all expenses.

Have you had good success in sending larvæ for queen rearing? and does it do to depend on it, sent by mail, for rearing queens, if one has no imported queens?

To be sure we succeed, or larvæ would not be offered, year after year, in our price lists. If you comply with the conditions therein given, there will be very few failures.

How do transferred colonies compare with others, provided they were strong before transferring?

SUBSCRIBER, Bloomington, Ills.,

Colonies that are properly transferred are just as good as they were before, of course. If you leave out the drone brood, they are usually considerably better.

We have not had an average season for honey this year; basswood was good, but short; it lasted only 10 days. I got 98 lbs, from one of my best hives in 4 days, and from some, took 200 during the season, from basswood, but no honey after the 24th of July. I started with 60 stocks, took my honey from half, 2,911 lbs. and increased to 133 with the other half. I got them all in good shape for the fall crop of honey. The flowers blossomed and were visited by the bees, but they came with light loads and seemed to only make a living. Nearly ½ the new swarms about here must starve this winter; there are few who will give them honey. LEWIS KELLEY.

Ionia, Mich., Oct. 29th, 1877.

WINTERING ITALIANS.

I commenced last spring with 15 swarms and increased to 28. Six left for the woods and I got 700 lbs. of extracted honey. From the 10th of August the flow of honey stopped on account of drouth, and we had no fall honey. I have kept Italian bees for 5 or 6 winters, in Minnesota, They wintered as well as my blacks.

BEE HUNTING IN THE MOUNTAINS.

Your bee-hunting is good, but among mountains you would be often greatly mistaken if you expected to find them on a straight line from your bait, for they will fly up a canon, down a side canon and up another, making angles and crooks, and always crossing the ridges where they are lowest. **John Beckly.**

Cannon City. Minn., Oct. 18th, 1877.

I am only a beginner in bee culture, having commenced this spring with 6 colonies of black bees. Have increased to 14 colonies, strong and well provisioned for winter, and have taken 500 lbs. extracted honey, which I find ready sale for at home, at 20 cts. per lb. I Italianized my bees from a stock bought of J. M. Brooks & Bro., and think they are decidedly better in several particulars. Have had a good honey season here. If I had known how to manage my bees at the beginning of the season I could have had a larger yield of honey. I hope to profit from the study of your A B C in Bee culture by another season.

G. M. Covert, M. D.

Sellersburg, Ind., Sept. 27th, 1877.

I commenced last spring with 9 swarms of bees—6 blacks and 3 hybrids—and increased to 35 by natural swarming. I have taken about 1000 lbs. box honey, which I sell readily at 20 cts. per lb. This was nearly all gathered from linn, buckwheat and golden rod, with a little white clover. I think my locality one of the best in the country. There is an abundance of willow within a half mile of my apiary and hundreds of acres of linn, elm and maple on every side; also fall flowers grow in abundance. White clover begins to grow quite thickly along the roadsides and in pastures. I mean to Italianize in the spring. How early could you ship an imported (or daughter of an imported) queen? I think if I can get one early enough, I will raise my own queens. **J. A. Swan.**

Clarksville, Iowa, Nov. 4th, 1877.

Queens can be sent in full colonies, any month in the year. A two frame nucleus hive could be sent safely in March, and queens can be sent in our large sized candy cages, about as soon, probably. We are now—Nov. 7th—sending out quite a number, although the weather is somewhat wintry.

The bees have filled every cell in two sets of boxes in the case you sent, and are now storing from Canada thistle. **Geo. B. Peters.**

Council Bend, Ark., Aug. 22d, 1877.

CONTRARY BEES.

On the 15th of May I divided a colony of bees that had no queen, giving half to one colony and the other half to another. They seemed to get along amicably for a day or two, when, on opening one of the hives, I found the bees were trying to smother the queen. As fast as I would liberate her, they would gather round her again forming a ball the size of a hen's egg. I dipped her in honey and returned her to the hive, as soon as they ate all the honey off her, they clustered round her again, and kept this up for a day or two, when I found her in front of the hive dead. I then gave them a frame of comb with eggs to raise a queen, and they started queen cells immediatly. On the 11th of June, the queen come out. On the 17th, I opened the hive and found they were trying to smother *her*. I released her, and as soon as they saw her, they again encircled her. How long they had been at this, I am unable to say, as I did not examine them from the 11th to the the 17th. Now, I have read and heard of bees smothering queens under conditions similar to the 1st, above mentioned, but why they should smother a queen of their own raising, is beyond my ken. There are no fertile workers in the hive.

A. C. Littlejohn.

New Orleans, La., June 19th, 1877.

Occasionally, a colony will act just like the one you have mentioned, but I have never failed to make them civil, by giving them a good lot of brood, and then a regular feeding. I say regular, for one or two feeds often amount to but little; but if you feed every day, for a week, you will see everything begin to prosper; queen, workers and all. Almost all these troubles, show themselves during a scarcity of honey; for, when bees are losing every day, they are pretty apt to feel cross, like "other folks." Make them good natured, and then go on with your queen introducing.

Many thanks for your promptness in sending the fine queen. She came to hand on the 18th, eleven days from the date of my order, as fresh and lively as though just from the hive, and would have stood a journey to California; only a small portion of the candy was consumed. She is now laying. I have now 10 colonies and propose making her the mother of them all next spring.

J. D. Bedell.

Franklin, St. Mary's Parish, La., Oct. 28th, '77.

In giving place to so many letters similar to the above, I presume I shall be censured by some, as using these pages to advertise my cages and queens. Very likely there is some truth in the idea, but my friends you can make the cages and raise the queens just as well as I can, I am sure, after the very full directions I have given you, and as we are all interested in any new discovery like the candy cage, I feel that we can all rejoice in its success. Were there a patent or any considerable profit on the goods, I confess I should feel some hesitancy in making public such approving letters.

The proceeds of 17 colonies of bees for the present season are 940 lbs. honey, mostly sold at 18c, or rather, sold at 20c, but I pay 2c for selling.

940 lbs.@18c	$169 20
19 young swarms@$5.00 each	95 00
	$264 20

Except 2 stocks, I extracted from the brood chamber only. Intend to use two story hives next year. Am sure, with them, I could have secured much more this season.

The labels received from you look bright and brisk, and give the jars quite a holiday appearance.

S. T. Pettit.

Belmont, Ontario, Can., Aug. 31st, 1877.

IMPORTED QUEENS.

I have been buying imported queens, for some years past, from parties who have advertised this class of queens for sale, and in most cases, think I got what I paid for. But about the 1st of Sept. last, I decided to do my own importing; so I fired off an order to L. Tremontani, Cremona, Italy, for two queens. I requested sent me one light, and one dark queen, the extremes in both colors as bred in Italy. A few evenings since, the express agent of our town sent me two little boxes direct from Italy. Not much time was lost getting them into a closed room, by the window, where I could see what kind of luck I had on hand. The first box opened, revealed a pleasing sight to my vision. A splendid large bright queen, as lively as a cricket. Good enough! I said, slipping her carefully and securely into a queen cage. Now for the other box, which seemed still as death; and sure enough, "nary" live bee or anything else "riz" out of that box. All daubed with honey and dead in the bottom; and as there were three little frames of honey with scarcely a cell of it eaten, I suppose they were all dead shortly after shipment. The weight of the solid cakes of honey had pressed down on the bottom bars of the frames, causing so much honey to run out as to destroy the bees. Two combs in the box containing the living queen, were without honey, or nearly so. I think if these little combs were placed in a hive of bees, all welded to the frames and cleaned up nicely before bees and queen were put in the shipping box, they would come through with more safety.

I think it all a notion that queens from Italy are not as bright as home bred queens. This queen I have just received, is about as yellow as any I have ever seen bred here. The dead queen was very dark as well as the bees, but they were so honey soaked I could tell but little about them. I have my queen safely introduced into a ten frame Novice hive, with plenty of honey and the *chaff attachment*. Now, I am sure I have a real imported queen. There is some satisfaction, in being the first man to see a queen walk out of the shipping box, on this side the big water.

J. A. Buchanan, Wintersville, Ohio.

I suppose I ought to make a report of doings in bee culture this season. I started with 14 stocks in Langstroth hives, transferred 6, sold 1100 lbs. of honey and have on hand 500 lbs. The bees are still gathering from golden rod and buckwheat. I now have 41 swarms, all in good condition. I like the queens gotten from Nellis first rate. I Italianized 10 in Sept. and will Italianize the remainder in spring.

I like the extractor much. it has doubly paid for itself. Comb fdn. does finely for starters in boxes. I expect to make a better report next season, but I think I have done pretty well this season considering it is the first. I have a good market in Houston and Galveston.

J. W. ECKMAN.

Richmond, Texas, Oct. 25th, 1877.

If the above is the report of your first season, friend E., I do not know but we would all better commence back, and learn over again.

Our honey season, which closed the 6th of September, was scarcely an average one. In the spring it was too cold and wet, and in the fall too dry. I wintered without loss and had no disease, except scarcity of honey. I made no increase except a few nuclei, in order to keep the original number of queens. yet I averaged only about 110 lbs. per colony, or about 14,500 lbs. from 130 colonies. I suppose I might as well try to be content and see if I can't do better another year. The above is all extracted honey. I use 2 story hives, winter in a house above ground, never lose any in wintering and have no spring dwindling. All spring dwindling is due to bad management or bad honey; usually, the former.

E. C. L. LARCH.

Ashland, Mo., Oct. 26th, 1877.

TURNIPS FOR BEES.

Last spring I found my bees gathering more pollen from a turnip, that we sow in August for winter and spring greens, than from anything else. Landreth calls it the "Seven Top Turnip." I enclose a few seed that you may, (if you have not already the same kind) try in your garden. Bacon and turnip greens come in "mighty well" in March and April. Should you like to get more seed this summer, I have plenty, and would be glad to send some free. Turnip seed are so easily raised, that 25 cts. per lb. would pay better than wheat. Two lbs. would sow an acre, if you have the turnip please excuse this; my reason for writing is that Landreth mentions this variety as a Southern kind.

A. W. KAYE.

Pewee Valley, Ky., Aug. 22d, 1877.

The seed was sown about the 1st of Oct., and now we have a patch of most beautiful luxuriant green foliage; in passing by them, I have often broken off and eaten the leaves, and they have a very pleasant taste, even in their raw state. We sowed them where the early potatoes had been harvested. As very few weeds make their appearance so late in the season, it will be a comparatively easy matter to have a nice plot of turnip blossoms to fill the vacancy between fruit blossoms and clover.

EMBOSSED COMB HONEY.

You were entirely wrong, in your explanation of how the designs were wrought on the section of comb; see Oct. No., page 276. I have tried the method you describe, but it does not succeed well; it is done much more easily, by simply uncapping the design you wish to raise, or around the one you wish to depress, and moving the comb, giving space to carry out or raise the part thus uncapped. They will not, ordinarily, uncap combs once sealed until they want the honey; although they may be moved apart much farther than usually built. Now, I am led to reflect that there are many errors among bee-keepers—the result of wrong conclusions. Don't you think so?

H. R. BOARDMAN.

East Townsend, Ohio, Nov. 8th, 1877.

You are right; we do often jump at conclusions hastily. I suggested the plan I gave, because I had done it in that way, but yours is perhaps simpler. If I am correct, all we have to do, is to cut a paper pattern of our design, and laying it on a nice section of honey, uncap all that the paper does not cover, and hang it in a hive while honey is coming in, moving the combs a little farther apart, than they stood originally. The uncapped cells will then be lengthened out, and sealed over again, thus giving a bulged appearance forming the design first cut through the paper. With a full frame, you could easily have the bees work your initials in sealed honey, just as our candy boy makes an embossed "A. I. R.," on a frame of candy.

A PLEA FOR THE TOADS.

I should think GLEANINGS a pretty good Bee Journal, if it were not for its immoral tendency. The picture and remarks on page 216 of the August No. is the immoral portion to which I allude. I do not dispute the statement that toads eat bees, but I do say, toads cannot eat bees if the hives are placed on suitable stands. If there were no way to prevent their eating bees, I should say the bees were doing the farmer more injury, by filling the toad's stomach, to the exclusion of other insects, than the toad could do to the bee-keeper by eating bees. I cannot be said to be prejudiced against bee-keepers for I have more bees than any of my near neighbors; and my income from them is more than that from farm crops. Martins are said to eat bees, but we have three large martin houses close to the apiary, and I have never yet seen a martin eat a bee. The martins are the variety of which the males are black and the females have grey breasts.

All toads do not eat bees, neither do all martins; just as, only now and then, we find a colony of bees that learn to eat grapes. It seems to be a sort of "sport of nature," if we may so term it. I would not kill all the toads, neither would I kill all the martins, or bees; but when I found a toad gobbling up bees in front of a hive, daily, I would either "kill or cure" him, just as I would a hen that had learned to eat all her eggs. If you put your hive upon legs, where will you shake the bees from the frames or sections, that they may get back in readily? If you put up a broad board, the toad will climb up this, just about as easily as a laden bee can.

POISONOUS PROPERTIES OF ZINC.

In GLEANINGS for Aug. you say, truly, that the poisonous properties of zinc and galvanized iron, are now pretty well established; but you speak of having decided, to your satisfaction, by a practical test. Now, as some people require "line upon line and precept upon precept," before they are convinced of anything in a practical manner, I think you would do well to give the particulars of your experiment.

H. A. SPRAGUE.

Charlotte, Maine, Aug. 31st, 1877.

Our water tank, just by the door out on the walk, is made of galvanized iron, and I discovered that, while drinking the water from it, I was troubled with a very disagreeable taste of copper in my mouth. This, at times, almost made me sick. Others did not notice it, so I said nothing, but I finally had the water brought from another well. This made no difference, so I drank at the well, instead of at the tank; relief came at once, and I decided it was the ice, and declared quite emphatically, that ice water was unwholesome. About this time some one spoke of zinc, and I purposely drank some water that had stood over night in the bottom of the tank, without ice. The disagreeable taste was so nauseating, that I felt it during the whole forenoon, and our tinners were directed to line the whole inside with tin, at once. I can now drink of the iced water freely, and have never since experienced any such symptom. Am I not right, my friends, in deciding against galvanized iron or zinc for honey extractors, or any of the utensils of the apiary?

The 5 dollar queens you sent me, were *all* purely fertilized.

GEO. W. GAMBLE.

Fredericksburg, Ohio, Oct. 24th, 1877.

Our Homes.

And herein do I exercise myself, to have always a conscience void of offence toward God and toward men.—Acts, 24: 16.

AT our prayer meeting saturday afternoon, just after the Nov. Journal had gone out, I was surprised to hear our minister, after reading from some of our best authors in regard to the philosophy of conscience, read an extract from GLEANINGS. It was the opening illustration in regard to the Sabbath day. As a matter of course, I felt somewhat proud of having my humble work placed side by side with that of great and good men, who had written in times past, and when I got home, I of course had to tell my wife about it that she might rejoice too, that even our own Medina people began to make inquiries in regard to my "bee-paper," for it is a fact kind friends, that many in our own town, do not even know of the existence of such a periodical. Usually, when anything is mentioned as having been the work of our own townsmen, we think we know them so well, that it is scarcely possible they know very much that we do not already know. For this reason, GLEANINGS is very little read or noticed in our own town.

Well, taking this into consideration, I was, as I have stated, very agreeably surprised, when many of my friends gathered about me, and some of them asked where they could find the book containing the rest of "that story." Well, what do you think my wife said? She said the article was very good; in fact, one of the best I had ever written, and that she thought I above all others, was the very one who needed to *read* it. Now was not that rather cool? That I ought to read one of my *own articles*? I stood in mute wonder, of course, and then mildly asked,

"What especial portion of it ought I to read?"

"That in which the lawyer said you had him in a 'tight place,' when he had promised to help persuade the boys to stop swearing, and then remembered that he was addicted to the habit himself."

"Ye—e—s," I replied, as I began to look back into my own "self."

"Of course my husband you do not swear, but, as an illustration, you are very severe on those who forget and make mistakes, and yet *you* are *very* forgetful, and make a great mary mistakes. Of course you have many things to oversee, and much care of various kinds, but if you are going to teach the boys to be accurate and avoid making mistakes, ought you not to be very careful to make none yourself, or else be more lenient with those who do, like *yourself*, 'make blunders'."

She had given me a sort of a side view that I had not before taken, of myself, and as I looked round in that direction, I discovered a great deal that needed looking after. I sat down and pondered, and the more I pondered, the smaller I felt. When the lawyer spoke of breaking off swearing, I looked at it as a very easy matter; and when I talked with the boys in jail, about breaking off from intemperate habits, I assured them that God would give them the strength if they would only come to him humbly and ask him to help them. The worst one of them, the skeptic, said he had done so, but that the trouble was, he would change his mind, at times, and would not want to stop; therefore, he had but little hope that he should ever do much better. What a pitiful confession was this; a human being who had lost hope, one who had no faith in God, and had almost lost faith in himself; I knew the boy needed the companionship of strong kind friends; and as he was one of the first to kneel in prayer at my last visit with him, in spite of his defiant scepticism before, I felt sure there was hope for him. Was I the proper person to point out the way to him? As I sat and pondered, after my wife had forgotten all about what she had said, it came up full and plain before me, how I had on bended knee asked God to help me to overcome that miserable despicable habit of finding fault and scolding, and yet—and yet—to tell the truth, I fear that like my poor friend and brother in the jail, I, at times did not want to stop. He excused himself by saying that he inherited his love of drink, for his father died of the delirium tremens. Therefore, he must go on drinking. I have sometimes been tempted to partly excuse myself, by saying my father was a man of the old strict "Down East" style who had no pardon or compromise for any one. If a church member sinned, he would demand that he be put out forthwith; for what business had a man in a church who told lies, or stole, or got drunk or—"got mad?" No, no; it was right to get mad, for it was "righteous indignation," but all the other things were downright sins. It was not wrong for me to scold the book-keeper, for it was only "righteous indignation," and they should recognize they had no right to make mistakes; besides if I was a little rough, it was only a "way" I had got, and I inherited that way from my father, and he was not to blame either, for he inherited it from *his* mother. I remember the dear good old lady now, as well as if it were but yesterday. She was kind in her way, but woe betide the son or daughter that did not make their children *mind*; and woe betide the grandchild that betrayed, in her presence, any of the sins that are so common all about us. And the neighbors—had any one of them in years gone by slipped and fallen——step carefully, Novice; that grandmother was carefully conscientious, and her life was, in all probability, a far better record than yours. If you inherited her unpleasant peculiarities, you inherited also her rigid and unswerving faith in our Saviour; and you are perhaps at this moment taking the credit all to yourself, that, may be, belongs to the careful training given her son, and so on, to you and your son.

But even granting that we *do* inherit these besetting sins; what then? Shall the brother who drinks and beats his mother, tell her, in his better moments, that she must expect such things, and has no right, really, to blame him under the circumstances? And shall I tell my hands that I am laboring under a violent temper that sometimes gets possession of me, and that if I should in moments of anger discharge them, they had better come back again next day, for I am not really to blame for it?

I suppose that many of you feel like saying this is all foolishness; and I confess it is just about what I think of it. But what *shall* my brother and I do? He can probably overcome almost every other temptation, without very much difficulty; and I have been enabled to so far get past nearly all the other rocks and breakers, that with God's help, I have almost forgotten that they ever existed to trouble me. There is one thing pretty certain; when I kneel in prayer with him again, I can from the bottom of my heart, ask God to help *us* both, for we both feel that we are helpless.

Sometime, I hope to tell you something about how I feel about prayer, and the way in which it helps me in these difficult places; but I cannot do it now, farther than this one illustration. This matter was made one of special prayer; and I told my Saviour that if it were best that this temptation should not be removed as others had been, I would try to do the best I could; and I asked to be shown where the first of this evil came in, and more of the mysteries of my own heart. Very soon it began to unfold itself, and to be made plain, or at least plainer. My friend, if you are a fault finder and a scold, and want to get over it, you have very likely a pretty big job on hand, and the mischief has doubtless a root where you least expect it.

I should hardly wish to say that all who find fault are cowardly, but I do feel that I am too cowardly, or perhaps too weak or feeble to take up what I know to be my duty, when I get into a scolding mood. Trials will come, and difficult and hard things to do, must be done, or we must take the consequences. Because a neighbor, or because those about us have bad and glaring faults, we must not take it for granted they are all bad. To illustrate:

Many of you may have neighbors who will borrow your tea, sugar, butter or soap, and they will do it without any idea of ever paying it back again. I was told by a woman that she had to stop buying her soap by the box, just because her neighbors would find it out, and borrow it incessantly without paying it back again. Perhaps they, poor souls, took it for granted she must have an abundance of money, or she would not have such a supply of every thing, and a bar of soap was such a mere trifle, it did not seem a very great sin, if they should not repay it. The question will well up, "Can they be Christians and do this?" Well, I confess, I don't know, but I think it will be safer for us to conclude they can, that perhaps their mothers and grandmothers did the same thing, and that it is not very much worse than things we do. But hold on! we are not to drop the matter there, by any means. It is right that you should buy your soap by the box, and thus save much useless running, besides the saving in money; and it is wrong for you to encourage in your neighbors, what you all know to be a kind of petty thieving. A responsibilty rests on you, and you have no right to evade it. Your husband is perhaps struggling hard to get the wherewith to get a whole box of soap, and you have no right to allow yourself to be robbed in this way.

You might remedy the matter by making out a bill of the items of sugar, tea, coffee, eggs and soap, and sending over, but I fear it would produce much the same effect as would telling one of the boys on the street, while swearing, that he was a low lived vagabond, and deserved to have his mouth slapped every time he uttered an oath. Your neighbor might stop borrowing of you, but you would be bitter enemies henceforth. More than that, it would probably have very little effect in preventing them from doing the same thing elsewhere. Now I will try to tell you where the courage comes in, and where I am an arrant coward. The work that God calls on me to do, and that I hang back from, evade and shirk in every possible way, is going to them in the spirit of kindness, somewhat in this way,

"My friend, there is something I feel I ought to say to you; and yet I dislike to do it, you know not how much. I do not wish to hurt your feelings, or give you pain, and I do not wish to find fault, but I wish that we may remain friends. You have borrowed from me for a long while, and for some reason unknown to me, have not paid back what you have borrowed. It seems a small matter, but my husband and I have been obliged to closely economize. I have felt that I should feel better, and that it would be better all round, if I spoke of this."

I need scarcely tell you what the result will be, for you all know that if you do this in the true spirit of kindness and love, you have made a true friend for life. It may be that your friend will have to be lifted up again, but if you do your part well and faithfully, you will soon have her working with you, for the good of others. After taking up such a cross as this, how one can almost hear that still small voice saying "Well done, thou good and faithful servant."

Now if we go back still farther, we shall find that the fault is a great part ours, that this state of affairs existed. Long before your neighbor made so free with your household goods, you have perhaps in an unguarded moment of generosity. invited her to help herself, and to be free to send for whatever she wished. If you are prone to have cross spells, beware of getting too pleasant. Check both extremes, to the extent of seeming cross and crabbed when you do not feel so, if you can do no better. Be careful and particular, and keep track of every little item. Those who have taught a village or country school, know well the result of too much freedom with the scholars. Preserve a proper and consistent dignity, and beware how you invite freedom by telling any body to go and help themselves, or to keep their own accounts. Be pleasant and friendly with those all about you, but beware how you spend very much time in idle talk. I do verily believe that idle talk and useless controversy has, more than any other one thing, unfitted me for grappling with the stern realities of every day life, in a pleasant and cheerful manner. I know I should be kind and friendly to all about me, and I do know too, that this kindness should be distributed in an even way.

It is often a positive unkindness to a person, to be too lenient, or perhaps I should say, too easy or loose in business with him. The hands in a manufactory, may get into a habit of smashing the tools, and although it seems hard to make them pay for all such, it is really a kind thing to do, for it very soon makes them careful in a way that nothing else would. Now, if I have omitted to do this just because I was weak, and hated to give pain, and then got cross and scolded when I found everybody was careless and heedless, I was simply suffering the consequences of my own slack and cowardly way of doing things.

One can be pleasant by being loose and easy about every thing, shifting all responsibility to other people's shoulders, and not troubling themselves about any thing. But are such really pleasant people after all? I have seen some who would reply with childish indifference and unconcern, when asked for money they had faithfully promised by a certain time. If you are going to try to do as you would be done by, a heavy responsibility rests upon you, that you cannot shake off; and if you are doing a business that requires the aid of many hands, a serious and solemn responsibility rests upon you, if you have a desire to do justice to all. You are going to make your customers "good" every time, if you succeed in business, and unless your hands make *you good* in the same way, you will fail pecuniarily. You are obliged to insist on this; it may give pain, and you may feel that you would rather lose the money yourself, but it will be far kinder to give the pain, and have it done with, than to drop it because you are cowardly, and then "growl" because everybody is robbing you.

Suppose you hang a basket out in the street, containing 50 nice apples. Attach a card, asking every body who takes one, to leave a penny in its place. When the apples are gone, you "ought to have" 50 pennies in their stead. If you do not find the exact amount, abuse every body you meet. That is just about the way *I* do when I scold.

God has given us all a basket of apples to take care of. He has promised if we are faithful with a few, he will give us more; and I tell you my friends never was a promise given, that was more faithfully fulfilled. We are not to go off and let everybody make free with our apples as they choose, nor are we to go for everybody with a "pitchfork" who, human like, forgets to leave the penny; but we are to be faithful. We are to recognize that it is human to be selfish—especially when we are tired and thirsty—and that we therefore should deal gently with the erring. While we must be firm with those who want to get away without paying the penny, it is just as much a duty to be kind. May God give us all, that golden mean. May He show us how to be wise as serpents, yet harmless as doves.

This is the last number of the year dear friends, and I can but feel that I have taken care of my basket of apples but poorly. You have handed in your pennies very liberally, but many times the apples were not as fair as they might have been; I fear I have undertaken the care of almost too many, a part of the time. I do desire to please you, and to have them all fair and free from dust and specks, but "O dear me!" what a task it is to have every thing just as you feel it ought to be. A part of this very Journal, the last of the year, is very badly printed. We tried every way we could, but it was a damp rainy time, and we could not make "it" print any better. If it is God's will, I will try to be satisfied with a smaller basket. Before we can be made "ruler over many" we must learn to be "faithful over a few." May that kind Father forgive *us* all, as *we* hope to be forgiven.

ONONDAGA COUNTY HONEY.

WE clip the following from the Syracuse *Journal*:

At the recent National Bee-keepers' Association Convention held in New York city, Messrs. Thurber & Co. offered a gold medal valued at $50 for the best honey, in the most marketable shape. As this offer was the first of the kind ever made by such an association, the displays of honey were splendid. Thomas G. Newman, editor of the *American Bee Journal*, A. J. King, editor of the *Bee-Keepers' Magazine*, and Mr. Fletcher, of New York city, were appointed judges. After a careful examination of the numerous samples exhibited, the medal was awarded to Mr. G. M. Doolittle, of Borodino, in this county, thus saying that Onondaga county produces the finest honey of any county in the United States.

Speaking of Mr. Doolittle's honey, the New York *Times* says:—"Mr. Doolittle's honey is made from teasel blossoms and brings four cents more per pound than any other honey in the market."

Mr. Doolittle took to New York city nearly twenty thousand pounds of honey this season, which he sold at 20 cts. per pound to H. K. & F. B. Thurber & Co., of that place. The above twenty thousand pounds was pronounced the best lot of honey that was ever brought into New York city.

The medal awarded to Mr. Doolittle is valuable and elegant and well-deserved.

ABOUT HIVES.

WE see that some of your correspondents seem to think that large yields of honey are owing entirely to the style of hive used. This is not the case; and in order that the readers of GLEANINGS should not get the idea that the hives used by us would give them thousands of lbs. of honey, without work, we have said, in conclusion of our report, that if any one could not spend the time on bees which they required, they had better keep out of the business. We know of no hive with which a man can secure large results, by simply folding his hands and letting the bees work. We work from early dawn till late at night, averaging about 15 hours work each day, Sundays excepted, and our only business is keeping bees. We wish it understood that large yields of honey can only be secured where there are large numbers of bees in a hive; and securing said bees in time for the honey harvest, is all the secret of our success. That more bees can be obtained by the use of the Gallup frame than any other, is only one of our preferences; and we must be excused for preferring said frame in this locality. We have done nearly as well with the L. frame, and as we have said before, in GLEANINGS, if we had 20 swarms of bees in any kind of simple movable frame hive, we would not change to try any other. The reason of our writing as we have about the hive we use, was that Novice has claimed a superiority for the L. frame, over any other, and this we are unwilling to admit. Neither have we written as we have, hoping to sell hives, for we can make no such wages manufacturing hives, as we can at work among our bees. We only advertised our hives in GLEANINGS to stop the voluminous correspondence brought to bear on us about hives. That we have any better locality for bees than the majority of apiarists, we think a mistake; for there are many places, even in this county, which we prefer to our own, and only consented to settle down where we are, on account of our aged father and mother. Thus the readers of GLEANINGS will see that it is not the hive we use, nor the locality, that produces these large yields of honey, but a thorough knowledge of the inside of a bee hive at all times, and an untiring energy in the prosecution of our business. In short, as we have said before, in GLEANINGS, "Do things at the right time, and in the right place, and leave no stone unturned that will produce a single ounce more of honey."

G. M. DOOLITTLE.

Borodino, N. Y., Nov. 13th, 1877.

HONEY DEW, HONEY FROM COTTON, TRANSFERRING, &c.

I TRANSFERRED my colony to the Simplicity hive, purchased an Italian queen of Nellis, and successfully introduced her. They gave me no swarms and no surplus honey last year. This spring, I procured another black colony, reared a pure queen which was, in due time, purely impregnated. From these two colonies I have increased my stock to six, and have taken 102 lbs, of extracted honey. Three of my queens are purely impregnated, two produce evident hybrid workers, and of a third I am in doubt. Anent this colony; I note that the larger proportion of the workers are well marked; of the rest, most have the downy bands, but are destitute of the bright yellow zone, around the anterior part of the abdomen. Are they hybrids? [Yes]

From the middle of April to the early days of June the leaves of our forest trees were loaded with honey dew. which gave abundant supplies to the bees. The honey therefrom is dark colored, but pleasant to the palate. The most beautiful honey in this section, is gathered from the cotton blossoms; and it is as sweet to the taste as it is pleasant to the eye. Our fall crop of honey forage is very abundant. I send you, enclosed, a specimen of a weed which grows by the acre in this region, and is very rich in the saccharine. It commences blooming in the early part of August, and lasts till frost. Will you kindly give your readers its botanical name? [*Eupatorium Ageratoides.*]

I have tried the comb fdn. and have found it to be a complete success, both for brood and for surplus honey. I have discarded gloves, but I, nevertheless. with due deference to your good self, think they serve a valuable purpose in giving the necessary confidence to a beginner. The veil, I have never acquired the necessary fortitude to throw aside. I use the Quinby smoker, and like it. In transferring, I have found an excellent way to attach the combs to the frames, is to sew them in by an overstitch, with a common baling needle, threaded with darning cotton. The bees will soon complete the attachment and remove the thread.

I regard over-swarming as the great difficulty to be contended with in the South, as wintering is with you. My own little apiary is just recovering from an attack of the swarming fever. Two colonies bade me a long farewell, about a week ago. I finally checked their vagrant instincts by the transposition of colonies with each other. M. W. CHAPMAN.

Mayhew Station, Miss., Sept. 10th, '77.

Notes and Queries.

How many lbs. of extracted honey make a gallon? HENRY KELLER.

Wrightsville, Pa., Nov. 10th, 1877.

[About 11, usually. Very thin honey may not weigh over 10, and extra thick, sometimes comes up to nearly 12. If it does not weigh more than 10, there is some danger of its souring.]

The past season was not a good one, with us. I got nearly 2,000 lbs, of honey, about one third in section boxes, the remainder extracted. Two hives gave me over 100 lbs. each in section boxes, and it was the nicest honey I have ever seen. I gave the fdn. a good trial, and I don't see how I can keep bees successfully without it "any more." ALFRED McMAINS.

Chariton, Ia., Nov. 5th, 1877.

THE following was clipped from the Utica Weekly *Observer*.

LARGE YIELD OF HONEY.

The report of the yield of honey the present season from the apiary of Capt. Hetherington, of Cherry Valley, almost exceeds belief. It is reported that he has 3,000 colonies of bees, and that they have averaged from 45 to 50 lbs. each, making a grand total of from 135,000 to 150,000 lbs. of honey, as the crop for one season. At 22 cts. per lb., an income of $28,000 to $33,000 will be realized therefrom. To us these statements seem extravagant. This large crop, it is said, has been sold to one house in New York.

Fifty lbs. per colony may seem extravagant to the *Observer* folks, but it is not very to *our* readers, although there are perhaps very few among us who could take charge of 3,000 and do even so well as that.

A word here on the question of comb fdn. I am more than pleased with it, especially when used in the brood chamber. I prefer it to frames of comb that have been kept over one season. The bees prefer building out the cells to cleansing old comb, and in the working season, it affords them just enough comb building to keep them prosperous. I propose, next season, to gradually substitute fdn. for all, except the very best of the frames of comb in my hives, and, by this means, to avoid raising so many drones.

I have been using the suspended Quinby frame until the last season, when I substituted the L., frame for it, and am now satisfied. Am now preparing my bees for winter by surrounding them with chaff cushions; last winter I packed the entire hive in chaff, losing but one hive, and that proved to be queenless.

WM. M. CAKE.

Fostoria, Ohio. Oct. 23d, 1877.

* * *

NOT A BLASTED "HOPER."

The last you heard from me was for placing me under "Blasted Hopes" in the April No. of GLEANINGS. This time, it is to let you know that we are still in the bee business. We started last spring with about 80 stands, some of which were taken on shares and others rented, paying 10 lbs. of honey per year for the use of a hive. as long as we keep it. We have, at present, 160 stands. We have taken 2,777 lbs. of honey, 246 lbs. of which was extracted, and the rest comb honey. Our comb honey is all on fdn. of our own manufacture; have used about 75 lbs. of wax for that purpose. Our surplus has all been taken without going into the body of more than a dozen hives. Take 13 of your best filled L. frames and place them in one hive, then lift at it and you will have some idea of what some of our hives are; you will find it is "fast somewhere at the bottom." I never saw our bees go into winter quarters stronger than they are this fall, and if they die this winter, well!——they will just have to die.

CHAS. W. LAFFERTY.

Martinsville, Ills., Nov. 12th, 1877.

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TRIALS AND TRIBULATIONS AND —— —— ——.

I let the first queen sent, out of the cage after 36 hours, and the bees said "zeep!" "zeep!" and gathered in a knot around her. I lifted out the frame and holding it in one hand, I picked off the whole knot in the other, but while trying to separate the bees from the queen, they all dropped on the ground. and that was the last I ever saw of that queen, though I looked the ground over for a long time, and so did the bees that dropped with her. A few days after, I attempted to look the hive over, but was driven away, it being about the close of the honey yield. A few days after that, I give them a good smoking and looked every frame over. I did not see the queen but found both larvæ and eggs. I closed the hive and waited results. I put on 2 boxes with glass ends and 21 days after I let the queen loose I began to watch for young bees in the boxes; for 6 days, I watched hours each day seeing no Italians, and had come to the conclusion that the queen did not get back into the hive, but that there was a native queen other than the one I destroyed. But on the 28th day, when I was not looking for them, out came a lot of young Italians for a "fly," and I was as tickled as a boy with a new top, for after all my blunders she had got into the hive and the bees had accepted her. H. SCRANTON.

Plummer's Landing, Ky., Aug. 10th, '77.

OBITUARY.

IT is with sad feeling, that I write to inform you of the fate of one of your subscribers. John Van Liew, aged about 60 years, and a practical bee keeper, was found about ¼ mile (in a wood) from home, on Sunday morning, with the contents of a double barreled shot gun in his breast, and his skull knocked in with the but of the gun. He was returning from town, on foot, to his home, and several persons heard the two reports of the gun about 10 o'clock, Saturday night. No one is suspected, and no reason is assigned for the act, at present.

H. H. BROWN.

Light Street, Pa., Sept. 10th, 1877.

Friend V., has long been one of our subscribers, and it is with much pain we read the facts given above. Not only for his untimely fate, but that such things do occur, now and then, among a civilized and enlightened people. Are we not in great need of more Christianity and civilization? Well may we hesitate and ponder.

GLEANINGS IN BEE CULTURE.

Published Monthly,

A. I. ROOT.
EDITOR AND PROPRIETOR.

MEDINA, OHIO.

Terms: $1.00 Per Annum.
[*Including Postage.*]
For Club Rates see First Page.

MEDINA, DEC. 1, 1877.

Blessed is the man that walketh not in the counsel of the ungodly, nor standeth in the way of sinners, nor sitteth in the seat of the scornful: But his delight is in the law of the Lord; and in his law doth he meditate day and night. And he shall be like a tree planted by the rivers of water, that bringeth forth his fruit in his season; his leaf also shall not wither; and whatsoever he doeth shall prosper.
Psalm, 1; 1, 2, 3d.,

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THERE isn't a doubt of it my friends; whatever we do *will* prosper, whether it is bee-keeping, farming, manufacturing or anything else, if we only do it with our hearts filled with a spirit of obedience to the commands God has given us, and that broad love and charity toward all around us, that follows as a natural consequence.

"OUR FOLKS" have succeeded in making some very nice gingerbread with the 3½ cent grape sugar.

NEXT month we shall commence printing GLEANINGS with an outfit of "bran new" type throughout. Are't you glad?

OUR turnip patch, mentioned on page 332 has given us a fine "mess of greens," already. Of course we cannot tell about the pollen yet, but they are excellent for greens, anyway.

REMEMBER that the $30,00 fdn. machine is to be $35.00 after Jan. 1st. If you wish to save the $5.00, you must have the money in our hands before the year is out. I dislike to advance the price of anything, but we very soon discoverd after fixing the price at $30., that it would hardly pay expenses, with the extra nice work we put on the machines.

Now we cannot very well send you one of the steam engines for hive making, as a premium for renewing before Jan. 1st, because we couldn't get it into the post office, and besides, you might take the Journal for the sake of the engine, and not for its own intrinsic value. If you subscribe for GLEANINGS, I wish you to do it for *its* sake alone, just as you would buy a spelling book—because you wanted one. It would be quite convenient for us to have your name before our list is taken down, for there would then be no danger of mistakes in setting it up again, but I think on the whole I will let you do just as you please about it. If I should buy anything of you, I should buy just what I wanted, and when I wanted, and therefore I think you should have the same privilege.

To tell the whole truth, I feel a little guilty about that article on pollen, and will try to own up to all I have "stolen." The grains of pollen, were copied from "Carpenter on the Microscope." Had it been possible to find the pollen wanted at this season, I should have taken it from nature. The tongue of a bee, I copied from Prof. Cook, and Carpenter, but before so doing, I examined a tongue from a living bee, while sipping honey, and made some alterations and additions of my own. The curious machine on the fore leg of the bee, was discovered about a year ago, by Miss A., (one of our clerks) but I was not satisfied of its office, until the *British Bee Journal* dropped a hint in their Nov., No. of its being used to clean the pollen from the tongue. Some bees were procured, and set to work, and I soon discovered what I have told you. Now how shall I do justice to all? If I take the space to credit every body as I go along, in the A B C, it will almost double its size.

THE addition of flour to the candy, is a very important item indeed, for the queen cages, as well as the candy L. slabs. A colony in one of our chaff hives is now hatching out downy young Italians by the thousand, and the queen is going round filling the combs with eggs, as if it were June; and this has all been brought about by a single frame of candy containing the flour. The queen was hatched out about Oct. 1st, commenced laying on the 12th, and it is now the 13th of Nov. Of course this could only be done with the aid of the chaff hives.

H. KRUPP, of Warren, Pa., reports a queen that laid eggs which hatched into larvæ all right, but none of the larvæ ever became so large as to be sealed over. It is quite common to have queens that will not lay at all, and a few have been reported as laying eggs which never hatched; but we never before heard of a case like the above. I presume the larvæ must have been removed by the bees just before it was ready to seal over; but whether it died or not, we are unable to say, as our friend declares he found plenty of unsealed larvæ for several weeks, but never any sealed brood.

OUR REPORT.

OUR apiary numbered May 1st, about 75 colonies. We have sold bees, honey and queens, to the amount of about $1,000 as near as we can get at it. Have paid out for labor in the apiary, perhaps $100. On account of the dry weather, the season has not been an average one, but the net yield per colony, $12, is perhaps about as well as we average. At the price we are receiving for our honey in section boxes, it would doubtless have paid better to have raised honey exclusively. Several times, we took tested queens from full stocks at work in the sections, and the result was invariably, a loss of honey amounting to much more than the value of the queen. Notwithstanding these drawbacks, I think it well for all bee-keepers to prepare themselves to sell both bees, queens and honey, to all who may want them, as a general thing. We shall go into winter with about 75 strong colonies, besides a few more that we have reserved for experimenting on chaff cushions, grape sugar, flour candy, virgin qneens, &c.

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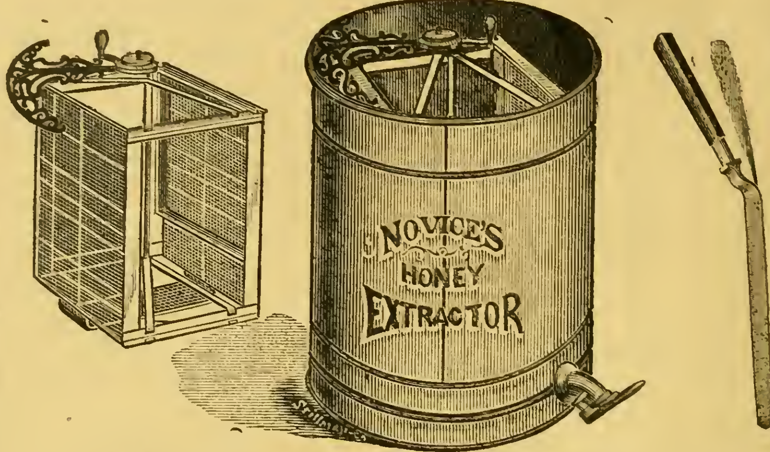
OUR LAST IMPORTATION.

Well, our queens came along a little quicker this last time. Our order was sent Tremontani Sep. 28th, and 12 boxes of queens were received Nov. 15th. Three were found dead, and a fourth was lost introducing. So I have lost one imported queen. She was stung by a bee that got into the cage by mistake, when I was recaging her. All required caging more than 48 hours, except two, and one has been caged over a week. The balance of the invoice will be sent early in the spring.

Now perhaps I am in danger of praising imported queens too much, since I keep them for sale, and I will therefore try to give an unbiased report. These were very dark; several were small and inferior looking, and many of the boxes were peopled with large and more active moth worms than any we have in this country; at least, in our apiary, and I saw two bees having the Braula ,or Italian bee louse on their backs. I do not fear these parasites any more than I do the moth, for I think plenty of bees in the boxes would have routed both. Friend T., doubtless feared starving the little fellows; he has shipped them pretty successfully. The queens were all stout and active, and will doubtless improve much in appearance by spring. See Tremontani's advertisement.

PRICES OF EXTRACTORS:

For Gallup frame, $7,50; American frame $7,75; Adair frame, $8,00; Langstroth, $8,00; Quinby, $9,00. No knife included at these prices. All the above sizes kept constantly on hand ready to ship. OVER 1000 NOW IN USE.



In ordering be sure to give outside dimensions of frame, and length of top bar.

Our Honey Knife, Price $1,00, post-paid, is made of fine steel, nicely finished, with a thin keen edged blade that needs no hot water or any such "fussing" to make it uncap nicely.

ADVERTISEMENTS.

Advertisements will be received at the rate of 20 cents per line, Nonpareil space, each insertion, cash in advance: and we require that every Advertiser satisfies us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

FREE! FREE! FREE!

We will send a sample copy of the **Bee-Keeper's Magazine,** *post-paid,* to any person in any way interested in **Bees** or their **Products,** or in the apparatus so successfully used in modern management. Just send your name and address to **A. J. KING & CO.,**
8tf **61 Hudson St., New York.**

CASH FOR BEES-WAX.

We are paying 29 cents per pound for yellow beeswax, in lots of from 50 to 5,000 or more pounds, delivered at Syracuse, or 30 cents, if exchanged for white wax. If you have any wax on hand, and can deliver it at the above price, please do so, and we will send you our check on receipt of the same.

ECKERMAN & WILL.
8-7 Wax-bleachers, Syracuse, N. Y.

For prices and particulars concerning

Comb Foundation,

See advertisement in Oct. GLEANINGS. A new circular of Bee Hives and their fixtures will be issued in about 4 weeks.

My circular of about 300 leading Periodicals at CLUB PRICES, ready Dec. 1st. Send for it and save money. Agents wanted. J. H. NELLIS.
11tf Canajoharie, N. Y.

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$1.00 Queens.

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*Dr. J. P. H. Brown, Augusta, Ga.	1-12
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*Wm. J. Andrews, Columbia, Tenn.	2-2
Miss A. Davis, Holt, Ingham Co., Mich.	5-4
D. A. Pike, Smithsburg, Wash. Co., Md.	5-6
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Two " " " " "	7 00

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